Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1A	Natural Gas	3625	MMBTU/hr		Selective Catalytic Reduction (SCR) with Dry Low NOx Burners (DLNB) during normal operations; Good Combustion Practices during Startup/Shutdown operations.	26.91	LB/H	HOURLY MAXIMUM	109.51	T/YR	ANNUAL MAXIMUM	15	PPM@15% O2	4-HOUR AVERAGE
MI-0423	INDECK NILES, LLC	1/4/2017	FGCTGHRSG (2 Combined Cycle CTGs with HRSGs)	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period. The throughput capacity is 3421 MMBTU/H for each turbine, and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains.	SCR with DLNB (selective catalytic reduction with dry low NOx burners)	38.1	LB/H	24-H ROLLING AVERAGE	286	LB/H	OPERATING HR DURING STARTUP OR SHUTDOWN	0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	FGCTGHRSG (2 Combined cycle CTGs with HRSGs; EUCTGHRSG10 & EUCTGHRSG11)	Natural gas	554	MMBTU/H, each	Two combined cycle natural gas fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period.	Selective catalytic reduction with dry low NOx burners (SCR with DLNB).	3	PPM AT 15% O2	24-H ROLLING AVG; EACH EU	8.18	LB/H	24-H ROLLING AVG; EACH EU	0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	FGCTGHRSG--Startup/Shutdown (2 combined cycle CTGs with HRSGs; EUCTGHRSG10 & EUCTGHRSG11)	Natural gas	554	MMBTU/H; EACH	Two combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. This process group is to identify emission limits during startup and shutdown.	Selective catalytic reduction with dry low NOx burners (SCR with DLNB).	43.7	LB/H	OPERATING HOUR DURING STARTUP; EACH EU	43.1	LB/H	OPERATING HOUR DURING SHUTDOWN; EACH EU	0		
*MI-0431	INDECK NILES LLC	6/26/2018	FGCTGHRSG (2 Combined Cycle CTG with HRSGs)	Natural gas	3421	MMBTU/H	3421 MMBTU/H for each turbine and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains. Two combined-cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSG) (EUCTGHRSG1 & EUCTGHRSG2). The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period.	SCR with DLNB (Selective Catalytic Reduction with Dry Low NOx Burners)	2	PPM	AT 15%O2; 24-HR ROLL AVG	38.1	LB/H	24-HR ROLL AVG.	0		
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3 (3 combined cycle combustion turbine and heat recovery steam generator trains)	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG includes a natural gas fired duct burner with a 256 MMBtu/hr heat input capacity and a dry low NOx burner.	Good combustion practices, DLN burners and SCR.	2	PPMVD	AT 15%O2; EACH INDIV. CT/HRSG TRAIN	22.4	LB/H	EACH INDIV. CT/HRSG TRAIN; 24-H ROLL AVG	0		
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3--Startup/Shutdown Operations	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG includes a natural gas fired duct burner with a 256 MMBTU/Hr heat input capacity and a dry low NOx burner. This scenario identifies the emission limits applicable during startup and shutdown operations.	Good combustion practices, DLN burners and SCR.	249	LB/H	EACH CT/HRSG TRAIN;STARTUP /SHUTDOWN	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.	SCR with DLNB (Selective catalytic reduction with dry low NOx burners).	2	PPMV	AT 15%O2; 24-HR ROLL AVG NOT S.S.	29.7	LB/H	24-H ROLL AVG NOT S.S.	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.	SCR with DLNB (Selective catalytic reduction with Dry Low NOx burners).	2	PPMVD	AT 15%O2; 24-H ROLL AVG; NOT S.S.	29.7	LB/H	24-H ROLL AVG; NOT STARTUP/SHUT DOWN (SS)	0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	SCR with DLNB (Selective catalytic reduction with dry low NOx burners).	2	PPMVD	AT 15%O2; 24-H ROLL AVG; EACH UNIT;	28.9	LB/H	24-H ROLL AVG; EACH UNIT; NOT S.S.	0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)--Startup & Shutdown	Natural gas	0		This section is the startup and shutdown emission limits for FGCTGHRSG. Two 3,658 MMBTU/H natural gas-fired combustion turbine generators (CTGs) coupled with heat recovery steam generators (HRSGs). The HRSGs are equipped with natural gas-fired duct burners rated at 800 MMBTU/H to provide heat for additional steam production. The HRSGs are not capable of operating independently from the CTGs.	SCR with DLNB (Selective catalytic reduction with dry low NOx burners).	262.4	LB/H	EACH UNIT; OPERATING HOUR DURING S.S.	0			0		
TN-0162	JOHNSONVILLE COGENERATION	4/19/2016	Natural Gas-Fired Combustion Turbine with HRSG	Natural Gas	1339	MMBtu/hr	Turbine throughput is 1019.7 MMBtu/hr when burning natural gas and 1083.7 MMBtu/hr when burning No. 2 oil. Duct burner throughput is 319.3 MMBtu/hr. Duct burner firing will occur during natural gas combustion only.	Good combustion design and practices, selective catalytic reduction (SCR)	2	PPMVD @ 15% O2	30 UNIT-OPERATING-DAY MOVING AVERAGE	8	PPMVD @ 15% O2	15 UNIT-OPERATING-DAY MOVING AVERAGE	0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat Recovery Steam Generator, fired Duct Burners, and Steam Turbine Generator	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Selective Catalytic Reduction (SCR) and Dry Low NOx burners	2	PPMVD	15% O2 3-H AVG	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	COMBUSTION TURBINE GENERATOR WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATORS (3)	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	SCR	2	PPMVD	1 HR AVG	0			0		

Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	GE 7HA.02 Turbine	Natural Gas	3496.2	mmBtu/hr	Nominal 640 mWe All emission limits steady-state and include 1000 mmBtu/hr Duct Burner in operation Short Term startup and shutdown limits in lb/event given in permit.	Dry-Low NOx Burners, SCR	32.9	LB/HR	1-HOUR AVERAGE	156.2	TONS/YEAR		2	PPM	
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	GE LM6000PF-25 Turbines (4)	Natural Gas	59900	hp ISO	Turbine-duct burner pairs exhaust through common stack	Selective Catalytic Reduction and Dry Low NOx Combustion	5	ppmvd	4-HOUR AVERAGE	0			0		
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Natural Gas	59900	HP	EU IDs 5-8 Combined Cycle Natural Gas-fired Combustion Turbines rated at 59,900 hp (44.7 MW)	Turbines EU IDs 5 through 8 shall be equipped with Selective Catalytic Reduction and Dry Low NOx (SCR and DLN) combustors. SCR is a post-combustion gas treatment technique for reduction of nitric oxide (NO) and nitrogen dioxide (NO2) in the turbine exhaust stream to molecular nitrogen, water, and oxygen. This process is accomplished by using ammonia (NH3) as a reducing agent, and is injected into the flue gas upstream of the catalyst bed. By lowering the activation energy of the NOx decomposition removal efficiency of 80 to 90 percent are achievable. DLN combustors utilize multistage premix combustors where the air and fuel is mixed at a lean fuel to air ratio. The excess air in the lean mixture acts as a heat sink, which lowers peak combustion temperatures and also ensures a more homogeneous mixture, both resulting in greatly reduced NOx formation rates. DLN can reduce emissions by about 60%	5	ppmvd	4-HOUR	0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	2 COMBUSTION TURBINES	NATURAL GAS	170	MW	EACH TURBINE WILL PRODUCE 170 MW	SELECTIVE CATALYTIC REDUCTION	2	ppmvd	AT 15% O2, 3-HR AVG	14.8	lb/hr		0		
CA-1177	OTAY MESA ENERGY CENTER LLC	7/22/2009	Gas turbine combined cycle	Natural gas	171.7	MW		SCR	2	ppmvd	1 HOUR	0			0		
CA-1178	APPLIED ENERGY LLC	3/20/2009	Gas turbine combined cycle	Natural gas	0		Source test results: 1.45 ppm NOx @ 15% O2 or 2.19 lb/hr <0.22 ppm VOC @15%O2 or <0.12 lb/hr	SCR	2	ppmvd	1 HOUR	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	SCR	2	ppmvd	@15% O2, 1-HR AVG (W/ DUCT BURNING)	14.6	PPMVD	1-HR AVG (W/ DUCT BURNING)	0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #1 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	SCR	2	ppmvd	@15% O2, 1-HR AVG (W/ DUCT BURNING)	14.6	lb/hr	1-HR AVG (W/ DUCT BURNING)	0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	180	MW		SCR, DRY LOW NOX COMBUSTORS	2	ppmvd	@15% O2, 1-HR AVG	17.2	lb/hr	1-HR AVG	0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #2 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	180	MW		SCR, DRY LOW NOX COMBUSTORS	2	ppmvd	@15% O2, 1-HR AVG	17.2	lb/hr	1-HR AVG	0		
CA-1195	ELK HILLS POWER LLC	1/12/2006	COMBUSTION TURBINE GENERATOR, 2 units (Normal Operation)	NATURAL GAS	166	MW	Each CTG system will generate 166 MW under design ambient conditions with steam power augmentation from the duct burners, and 153 MW without steam augmentation.	SCR OR SCONOX, DRY LOW NOX COMBUSTORS	2.5	ppmvd	@15% O2, 1-HR AVG	15.8	lb/hr	1-HR AVG	0		
CA-1209	HIGH DESERT POWER PROJECT	3/11/2010	COMBUSTION TURBINE GENERATORS (NORMAL OPERATION)	NATURAL GAS	190	MW	THREE (3) COMBUSTION TURBINE GENERATORS AT 190 MW EACH AND EQUIPPED WITH A 160 MMBTU/HR DUCT BURNER AND HRSG	DRY LOW NOX BURNERS (LNB), SELECTIVE CATALYTIC REDUCTION (SCR)	2.5	ppmvd	@15% O2, 1-HR AVG	18	lb/hr	1-HR AVG	0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.	DRY LOW NOX BURNERS (LNB), SELECTIVE CATALYTIC REDUCTION (SCR)	2	ppmvd	@15% O2, 1-HR ROLLING AVG	19.6	lb/hr	1-HR ROLLING AVG	0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	DRY LOW NOX (DLN) COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR)	2	ppmvd	@15% O2, 1-HR AVG	0			0		
CA-1213	MOUNTAINVIEW POWER COMPANY LLC	4/21/2006	COMBUSTION TURBINES (COMBUSTOR TUNING PERIODS)	NATURAL GAS	175.7	MW EA.	FOUR (4) NATURAL GAS FIRED COMBINED CYCLE COMBUSTION TURBINES, EACH EQUIPPED WITH A 135 MMBTU/HR DUCT BURNER AND HRSG, AND EACH RATED AT 175.7 MW	1991 MMBTU/HR DRY LOW NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR)	80	lb/hr	1-HR AVG (COMBUSTOR TUNING PERIODS)	0			0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	LOW NOX BURNERS AND SCR	3	ppmvd	HOURLY MAX	0.013	LB/MMBTU	SEE NOTE	3	PPM @ 15% O2	
*CO-0073	PUEBLO AIRPORT GENERATING STATION	7/22/2010	Four combined cycle combution turbines	natural gas	373	mmbtu/hr	Three GE, LMS6000 PF, natural gas-fired, combined cycle CTG, rated at 373 MMBtu per hour each, based on HHV and one (1) HRSG each with no Duct Burners	Dry Low NOx (DLN) Combustor and Selective Catalytic Reduction (SCR)	3	ppmvd	1-HR AVE	4.1	lb/hr	30-DAY ROLLING AVE	0		

Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	LOW NOX BURNER AND SELECTIVE CATALYTIC REDUCTION	15.5	lb/hr	W/OUT DUCT BURNER	16.2	lb/hr	W/DUCT BURNER	2	PPM @ 15% O2	1-HR BLOCK
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.	Selective Catalytic Reduction	5.76	lb/hr	1 HR AVERAGE	2.5	PPMVD	@ 15% OXYGEN BASED ON A 1 HOUR AVERAGE	0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Low NOx Combustors, Selective Catalytic Reduction	2	ppmvd	HOURLY AS BASELOAD ON NAT. GAS	6	PPMVD	3 HOUR AVERAGE ON ULSD OIL	0		
FL-0263	FPL TURKEY POINT POWER PLANT	2/8/2005	170 MW COMBUSTION TURBINE, 4 UNITS	NATURAL GAS	170	MW	GENERATING CAPACITY: EACH OF THE FOUR GAS TURBINES HAS A NOMINAL GENERATING CAPACITY OF 170 MW FOR GAS FIRING (180 MW FOR OIL FIRING). EACH OF THE FOUR HEAT RECOVERY STEAM GENERATORS (HRSGS) PROVIDES STEAM TO THE SINGLE STEAM TURBINE ELECTRICAL GENERATOR, WHICH HAS A NOMINAL CAPACITY OF 470 MW. THE TOTAL NOMINAL GENERATING CAPACITY OF THE 4-ON-1 COMBINED CYCLE UNIT IS 1150 MW. FUELS: EACH GAS TURBINE WILL FIRE NATURAL GAS AS THE PRIMARY FUEL AND ULTRA LOW SULFUR (0.0015% SULFUR) DISTILLATE OIL AS A RESTRICTED ALTERNATE FUEL. EMISSIONS OF ALL POLLUTANTS INCREASE WITH THE FIRING OF OIL. THE APPLICANT REQUESTS 500 HOURS PER YEAR PER GAS TURBINE (OR EQUIVALENT) FOR OIL FIRING. MODES OF OPERATION: STANDARD NORMAL OPERATION, WITH DUCT BURNER, POWER AUGMENTATION AND PEAKING.	NOX EMISSIONS WILL BE REDUCED WITH DRY LOW-NOX (DLN) COMBUSTION TECHNOLOGY FOR GAS FIRING AND WATER INJECTION FOR OIL FIRING. IN COMBINATION WITH THESE NOX CONTROLS, A SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM FURTHER REDUC	2	ppmvd	24-HR (ALL MODES OF OPERATION)	2	PPMVD	STACK TEST NORMAL OPERATION	2	PPM @ 15 % O2	STACK TEST (CT & DUCT BURNER)
FL-0265	HINES POWER BLOCK 4	6/8/2005	COMBINED CYCLE TURBINE	NATURAL GAS	530	MW		SCR	2.5	ppmvd	NATURAL GAS	10	PPMVD	OIL	2.5	PPM @ 15% O2	
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	COMBINED CYCLE COMBUSTION TURBINE SYSTEM (4-ON-1)	NATURAL GAS	1972	MMBTU/H	1876 MMBTU/HR WHEN FIRING DISTILLATE FUEL OIL. THE SYSTEM NOMINAL CAPACITY 1280 MW. EACH UNIT NOMINAL CAPACITY 215 MW (ISO) WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATOR.	WATER INJECTION	15	ppmvd	30-DAYS BASIS - NATURAL GAS	42	PPMVD	30-DAYS BASIS - DISTILLATE FUEL OIL	0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	COMBINED CYCLE COMBUSTION GAS TURBINES - 6 UNITS	NATURAL GAS	2333	MMBTU/H	2117 MMBTU/HR FUEL OIL. EACH COMBINED CYCLE UNIT SYSTEM (TWO ‘‘3-ON-1‘‘) WILL CONSIST OF: THREE NOMINAL 250 MEGAWATT MODEL 501G GAS TURBINE-ELECTRICAL GENERATOR SETS WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSGÃ¿S) WITH SCR REACTORS; ONE NOMINAL 428 MMBTU/HOUR (LHV) GAS-FIRED DUCT BURNER LOCATED WITHIN EACH OF THE THREE HRSGÃ¿S; THREE 149 FEET EXHAUST STACKS; ONE 26 CELL MECHANICAL DRAFT COOLING TOWER; AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.	DRY LOW NOX AND SCR WATER INJECTION	2	ppmvd	24-HR (GAS)	8	PPMVD	24-HR (OIL)	0		
FL-0303	FPL WEST COUNTY ENERGY CENTER UNIT 3	7/30/2008	THREE NOMINAL 250 MW CTG (EACH) WITH SUPPLEMENTARY-FIRED HRSG	NATURAL GAS	2333	MMBTU/H	FUELHEAT INPUT RATE (LHV): OIL2,117 MMBTU/H COMBINED CYCLE UNIT 3 WILL CONSIST OF: THREE NOMINAL 250 MW COMBUSTION TURBINE-ELECTRICAL GENERATORS (CTG) WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSG) WITH SELECTIVE CATALYTIC REDUCTION (SCR) REACTORS AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.	DRY LOW NOX SELECTIVE CATALYST REDUCTION	2	ppmvd	24 HOURS	8	PPMVD	24 HOURS	0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H		SCR	2	ppmvd	24-HR	0			0		
FL-0337	POLK POWER STATION	10/14/2012	Combine cycle power block (4 on 1)	natural gas	1160	MW	Basis for the emission standard is either NSPS Subpart KKKK or Department BACT determinations. The BACT emission standards for NOX while operating in combined cycle are more stringent than the corresponding Subpart KKKK emissions standards of 15 and 42 ppmvd @15% O2 on a 30-day rolling average for natural gas and fuel oil, respectively.	SCR/DLN	2	ppmvd	24-HR BLOCK (GAS) CEMS	8	PPMVD	24-HR BLOCK (OIL) CEMS	0		
GA-0138	LIVE OAKS POWER PLANT	4/8/2010	COMBINED CYCLE COMBUSTION TURBINE - ELECTRIC GENERATING PLANT	NATURAL GAS	600	MW		DRY LOW NOx BURNERS, SELECTIVE CATALYTIC REDUCTION	2.5	ppmvd	3 HOUR AVERAGE/CONDITION 2.11	87	T/YR	12 CONSECUTIVE MONTH AVERAGE/CONDITION 2	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	COMBUSTION TURBINE, COMBINED CYCLE W/ DUCT BURNER	NATURAL GAS (ONLY)	2375.28	MMBTU/H	SIEMENS SGT6-5000F COMBUSTION TURBINE (NGCT, CCGT) FOR ELECTRICAL GENERATION, NOMINAL 269 MW AND 2.1466 MMSCF/HR	SELECTIVE CATALYTIC REDUCTION (SCR), DRY LOW NOX (DLN), GOOD COMBUSTION PRACTICES (GCP)	2	ppmvd	3-HR ROLLING / 15% O2	96	PPMVD	3-HR ROLLING / 15% O2 DURING SU/SD/LL	0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.	SCR and Low-NOx Combustors	4.5	ppmvd	HOURLY AVG EXCEPT DURING SSM OR TUNING	0			0		
*IN-0158	ST. JOSEPH ENERGY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	SELECTIVE CATALYTIC REDUCTION AND DRY LOW NOX BURNERS	2	ppmvd	3 HOURS	0			0		
LA-0136	PLAQUEMINE COGENERATION FACILITY	7/23/2008	(4) GAS TURBINES/DUCT BURNERS	NATURAL GAS	2876	MMBTU/H	VISUAL INSPECTION FOR OPACITY ON A WEEKLY BASIS, STACK TESTS FOR PM, NOX, SO2, OPACITY, CO EMISSION POINTS GT-500, -600, -700, -800.	DRY LOW NOX BURNERS, SELECTIVE CATALYTIC REDUCTION	240	lb/hr	HOURLY MAXIMUM - NORMAL OPERATION	480	lb/hr	HOURLY MAXIMUM - STARTUPS / SHUTDOWNS	5	PPMVD @ 15% O2	ANNUAL AVERAGE
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		LOW NOX BURNERS AND SELECTIVE CATLYTIC REDUCTION (SCR) ADD-ON CONTROLS	21.8	lb/hr	HOURLY MAXIMUM	95.5	T/YR	ANNUAL MAXIMUM	3	PPM	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	TWO COMBINED CYCLE GAS TURBINES	NATURAL GAS	2110	MMBTU/H	CTG-1 TURBINE/DUCT BURNER (EQT012) CTG-2 TURBINE/DUCT BURNER(EQT013)	LOW NOX TURBINES, DUCT BURNERS COMBINED WITH SCR	30.15	lb/hr	MAX	0			4	PPMVD@15% O2	ANNUAL AVERAGE

Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	water injection	22.94	lb/hr	HOURLY MAXIMUM	0			20	PPMV	AT 15% O2
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	DRY LOW-NOX COMBUSTOR DESIGN AND SELECTIVE CATALYTIC REDUCTION (SCR)	2	ppmvd	3-HOUR BLOCK AVERAGE, EXCLUDING SU/SD	21.7	lb/hr	3-HOUR BLOCK AVERAGE, EXCLUDING SU/SD	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	USE OF DRY LOW-NOX COMBUSTOR TURBINE DESIGN , USE OF PIPELINE QUALITY NATURAL GAS DURING NORMAL OPERATION AND SCR SYSTEM	2	ppmvd	3-HOUR BLOCK AVERAGE, EXCLUDING SU/SD	870	LB/EVENT	FOR ALL STARTUPS	0		
MI-0366	BERRIEN ENERGY, LLC	4/13/2005	3 COMBUSTION TURBINES AND DUCT BURNERS	NATURAL GAS	1584	MMBTU/H	EACH TURBINE IS EQUIPPED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG). EACH HRSG IS EQUIPPED WITH A NATURAL GAS FIRED DUCT BURNER (650 MMBTU/H). TOTAL NOMINAL PLAN GENERATING CAPACITY WITHOUT DUCT FIRING IS 800 MW. A MAX OUTPUT OF 1100 MW THROUGH SUPPLEMENTAL FIRING OF HRSGS.	DRY LOW NOX BURNERS AND SELECTIVE CATALYTIC REDUCTION.	2.5	ppmvd	24-HOUR ROLLING AVG EACH HOUR	239.4	T/YR	ALL TURBINES COMBINED	2.5	PPM @ 15% O2	
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.	Low NOx burners	9	ppmvd	24-HR ROLLING AVERAGE	36.9	lb/hr	24-HR ROLLING AVERAGE	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Dry low NOx (DLN) burner and selective catalytic reduction (SCR) system.	2	ppmvd	EACH CTG; 24-H ROLLING AVG.	16.2	lb/hr	EACH CTG; 24-H ROLLING AVG.	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	This process is permitted in a flexible group format, identified in the permit as FG-CTG/DB1-2 and is for two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system. Additionally, the HRSG is operating with a natural gas fired duct burner for supplemental firing. The throughput is 2,486 MMBTU/H for each CTG/DB.	Dry low NOx (DLN) burners and selective catalytic reduction (SCR) system.	2	ppmvd	24-H ROLLING AVG	18	lb/hr	24-H ROLLING AVG	0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Low NOx burners and selective catalytic reduction.	3	ppmvd	24-H ROLLING AVERAGE	760	lb/hr	1-H AVERAGE	0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	COMBINED CYCLE COMBUSTION TURBINE W/DUCT BURNER	NATURAL GAS	1758	MMBTU/H	COMBUSTION TURBINE PERMITTED TO USE NG & NO. 2 OIL; DUCT BURNER PERMITTED TO USE NG & NO. 2 OIL. DUCT BURNER ALSO AUTHORIZED TO COMBUST LIQUID BIOFUEL.	DRY LOW NOX COMBUSTION FOR NG; WATER INJECTION FOR NO.2 OIL; SCR W/NHZ INJECTION IN HRSG FOR BOTH NG & NO. 2 OIL.	3	ppmvd	3-HR. AVG CTG & DB NAT. GAS OR DB NO OPE	6	PPMVD	3-HR. AVG CTG OIL, DB ANY FUEL OR NO OPE	4.5	PPMVD	3-HR. AVG CTG NG, DB OIL
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.	DRY LOW-NOX COMBUSTORS AND SELECTIVE CATALYTIC REDUCTION (SCR)	2.5	ppmvd	24 HOUR ROLLING AVERAGE, FIRST 500 HOURS	3	PPMVD	24 HOUR ROLLING AVERAGE, AFTER 500 HOURS	3	PPM @ 15% O2	
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		SELECTIVE CATALYTIC REDUCTION (SCR) AND WATER INJECTION	0.01	LB/MMBTU	3 HR ROLLING AVERAGE	2	PPMVD	3 HR ROLLING AVERAGE	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Selective Catalytic Reduction System (SCR)	2	ppmvd	3-HR ROLLING AVE BASED ON 1-HR BLOCK AVE	19.5	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	Selective Catalytic Reduction Systems(SCR) and Dry Low NOx	2	ppmvd	3-HR BLOCK AVERAGE BASED ON 1-HR BLOCK	18.1	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine without Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burner.	Selective Catalytic Reduction System (SCR) and use of natural gas a clean burning fuel	2	ppmvd	3-HR ROLLING AVE BASED ON 1-HR BLOCK	17.33	lb/hr	3-HR ROLLING AVE BASED ON 1-HR BLOCK	0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Selective Catalytic reduction (SCR) and use of natural gas a clean burning fuel	23	lb/hr	3-HR ROLLING AVE BASED ON 1-HR BLOCK	2	PPMVD	3-HR ROLLING AVE BASED ON 1-HR BLOCK	0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	SCR	2	ppmvd		0			0		

Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NY-0098	ATHENS GENERATING PLANT	1/19/2007	FUEL COMBUSTION (GAS)	NATURAL GAS	3100	MMBTU/H	THE FACILITY CONSISTS OF 3 WESTINGHOUSE MODEL 501G GAS COMBINED CYCLE TURBINES (245 MW BASE LOAD), HEAT RECOVERY STEAM GENERATORS, AND STEAM TURBINE GENERATORS (115 MW) WITH SELECTIVE CATYALYTIC REDUCTION (SCR) FOR NOX EMISSION CONTROL. NOX EMISSIONS FROM THE TURBINES ARE ADDITIONALLY CONTROLLED BY AMMONIUM HYDROXIDE INJECTION.	THE TURBINES EMPLOY DRY LOW NOX TECHNOLOGY AND NORMALLY OPERATE ON GAS. NOX EMISSIONS ARE ADDITIONALLY CONTROLLED BY SELECTIVE CAT ALYTIC REDUCTION WITH AMMONIUM HYDROXIDE INJECTION.	2	ppmvd	3 HOUR BLOCK AVAEAGE/STEA DY STATE	23.4	lb/hr	3 HOUR BLOCK AVAEAGE/STEA DY STATE	2	PPMVD @ 15% O2	3 HOUR BLOCK AVAEAGE/STEA DY STATE
NY-0100	EMPIRE POWER PLANT	6/23/2005	FUEL COMBUSTION (NATURAL GAS)	NATURAL GAS	2099	MMBTU/H		DRY LOW NOX COMBUSTION TECHNOLOGY IN COMBINATION WITH SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM	2	ppmvd	3-HOUR BLOCK AVE./ STEADY STATE	14.59	lb/hr	3-HOUR BLOCK AVE./ STEADY STATE	2	PPMVD AT 15% O2	3-HOUR BLOCK AVE./ STEADY STATE
NY-0100	EMPIRE POWER PLANT	6/23/2005	FUEL COMBUSTION (NATURAL GAS) DUCT BURNING	NATURAL GAS	646	MMBTU/H		DRY LOW NOX COMBUSTION TECHNOLOGY IN COMBINATION WITH SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM	3	ppmvd	3-HOUR BLOCK AVE./ STEADY STATE	28.9	lb/hr	3-HOUR BLOCK AVE./ STEADY STATE	3	PPMVD AT 15% O2	3-HOUR BLOCK AVE./ STEADY STATE
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, with duct burners	Natural Gas	51560	MMSCF/rolling 12-MO	Two Siemens 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	selective catalytic reduction (SCR); dry low NOx combustors; lean fuel technology	21	lb/hr		92	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, with duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	selective catalytic reduction (SCR); dry low NOx combustors; lean fuel technology	20.8	lb/hr		94.8	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners On	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Dry Low NOx burners and Selective Catalytic Reduction	27.6	lb/hr		120.9	T/YR	PER ROLLING 12 MONTHS	3	PPM	PPMVD AT 15% O2 ON 3-H BLOCK AVERAGE
OK-0115	LAWTON ENERGY COGEN FACILITY	12/12/2006	COMBUSTION TURBINE AND DUCT BURNER					SCR W/ DRY LOW NOX BURNERS AND DRY LOW NOX COMBUSTION	3.5	ppmvd	@15% O2	0			0		
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					DRY LOW NOX	9	ppmvd		0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	SCR AND DRY LOW-NOX	2	ppmvd	1-H AVG @ 15% O2	15.25	lb/hr	1-H AVG	0		
OR-0041	WANAPA ENERGY CENTER	8/8/2005	COMBUSTION TURBINE > HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	2384.1	MMBTU/H	GE 7241FA TURBINE AND DUCT BURNER. COMBUSTION TURBINE - 1,778.5 MMBTU/HR DUCT BURNER - 605.6 MMBTU/HR	DRY LOW-NOX BURNERS AND SCR.	2	ppmvd	3 HOURS	2	PPMVD		0		
OR-0048	CARTY PLANT	12/29/2010	COMBINED CYCLE NATURAL GAS-FIRED ELECTRIC GENERATING UNIT	NATURAL GAS	2866	MMBTU/H		SELECTIVE CATALYTIC REDUCTION (SCR)	2	ppmvd	3-HOUR ROLLING	0			0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Mitsubishi M501-GAC combustion turbine, combined cycle configuration with duct burner.	natural gs	2988	MMBtu/hr	or ULSD; Duct burner 499 MMBtu/hr, natural gas	Utilize dry low-NOx burners when combusting natural gas; Utilize water injection when combusting ULSD; Utilize selective catalytic reduction (SCR) with aqueous ammonia injection at all times except during startup and shutdown; Limit the time in startup or shutdown.	2	ppmvd	3-HR ROLLING AVERAGE ON NG	5.5	PPMVD	3-HR ROLLING AVERAGE ON ULSD	0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Dry low-NOx (DLN) combustor and selective catalytic reduction (SCR)	2	ppmvd		0			0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.	SCR	2	ppmvd		111.2	T/YR	EACH UNIT	0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	Combined Cycle Combustion Turbine AND DUCT BURNER (3)	Natural Gas	2538000	MMBTU/H	Three powerblocks consisting of three (3) natural gas fired F class combustion turbines coupled with three (3) heat recovery steam generators (HSRGs) equipped with natural gas fired duct burners.	SCR	2	ppmvd	CORRECTED TO 15% OXYGEN	17.4	lb/hr	DUCT BURNERS NOT OPERATING	18.4	LB/H	DUCT BURNERS OPERATING
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.	SCR	2	ppmvd	WITH OR WITHOUT DUCT BURNER	17.25	T/YR	INCLUDING START UP AND SHUR DOWN	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst	SCR	131.6	T/Yr	12-MONTH ROLLING TOTAL	0			0		
*PA-0298	FUTURE POWER PA/GOOD SPRINGS NGCC FACILITY	3/4/2014	Turbine, COMBINED CYCLE UNIT (Siemens 5000)	Natural Gas	2267	MMBtu/hr		SCR	2	ppmvd	@ 15% OXYGEN	19.6	lb/hr	WITH DUCT BURNER	79.9	TPY	BASED ON A 12-MONTH ROLLING TOTAL
TX-0497	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	COGENERATION TRAIN 2 AND 3 (TURBINE AND DUCT BURNER EMISSIONS)	NATURAL GAS	35	MW	GREEN POWER ONE WILL CONSIST OF TWO NOMINALLY RATED 35 MW GAS FIRED TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS, EQUIPPED WITH 312 MMBTU/HR DUCT BURNERS. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NATURAL GAS. THE DUCT BURNERS WILL BURN NATURAL GAS, COMPLEX GAS OR MIXTURES OF NATURAL GAS AND COMPLEX GAS. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROXIMATELY HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE EMISSIONS ARE PER TRAIN.	BP AMOCO PROPOSES TO USE SCR TO CONTROL NOX EMISSIONS FROM BOTH TURBINES AND DUCT BURNERS AFTER CONSIDERING ALTERNATIVE NOX CONTROL METHODS. THE TURBINES AND DUCT BURNERS WILL ALSO USE LOW NOX COMBUSTORS. BP AMOCO PROPOSES	11.43	lb/hr	3-HR AVG.	90.77	T/YR		0		

Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
TX-0502	NACOGDOCHES POWER STERNE GENERATING FACILITY	6/5/2006	WESTINGHOUSE/ SIEMENS MODEL SW501F GAS TURBINE W/ 416.5 MMBTU DUCT BURNERS	NATURAL GAS	190	MW		STEAG POWER LLC IS PROPOSING THE USE OF DRY LOW NOX (DLN) COMBUSTORS FOR THE TURBINES AND LOW NOX BURNERS IN THE DUCT BURNERS ALONG WITH SELECTIVE CATALYST REDUCTION (SCR) SYSTEM FOR THE CONTROL OF NOX EMISSIONS FROM THE COMB	45.4	lb/hr		504	T/YR		0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						1600	lb/hr		1752	T/YR		0		
TX-0546	PATTILLO BRANCH POWER PLANT	6/17/2009	ELECTRICITY GENERATION	NATURAL GAS	350	MW	EACH TURBINE/HRSG WILL BE DESIGNED TO OUTPUT 350 MW. TURBINES BEING CONSIDERED FOR THE PROJECT ARE GE 7FA, GE 7FB, AND SIEMENS SGT6-5000F.	SELECTIVE CATALYTIC REDUCTION	2	ppmvd	@ 15% O2 24-HR ROLLING AVG	0			0		
TX-0547	NATURAL GAS-FIRED POWER GENERATION FACILITY	6/22/2009	ELECTRICITY GENERATION	NATURAL GAS	250	MW	LAMAR POWER PARTNERS PROPOSES TO CONSTRUCT A NATURAL GAS-FIRED COMBINED-CYCLE POWER BLOCK TO BE BUILT AT THE EXISTING SITE IN LAMAR COUNTY, TEXAS. THE NEW POWER BLOCK WILL BE CAPABLE OF PRODUCING EITHER 620 OR 910 MEGAWATTS OF ELECTRICITY, DEPENDING UPON WHICH COMBUSTION TURBINE MODEL OPTION IS CHOSEN. THE PROPOSED PROJECT WOULD INCLUDE TWO COMBUSTION TURBINES (EITHER 170 MW GENERAL ELECTRIC 7FAS OR 250 MW MITSUBISHI 501GS), TWO HEAT RECOVERY STEAM GENERATORS WITH DUCT BURNERS AND ONE STEAM TURBINE. THE GE7FAS WOULD BE CAPABLE OF PRODUCING 620 MW OF ELECTRICITY IN COMBINED CYCLE MODE, WHILE THE M501GS WOULD PRODUCE 910 MW IN COMBINED CYCLE MODE.	SELECTIVE CATALYTIC REDUCTION	2	ppmvd	@ 15% O2, 24-HR ROLLING AVG	0			0		
TX-0548	MADISON BELL ENERGY CENTER	8/18/2009	ELECTRICITY GENERATION	NATURAL GAS	275	MW	FOUR GE PG7121(EA) COMBINE CYCLE TURBINES FIRING NATURAL GAS WILL DIRECTLY GENERATE 75 MW; EACH HAS A 165 MMBTU/HR DUCT BURNER AND A HEAT RECOVERY STEAM GENERATOR. TWO HRSGÃ¿S WILL TURN ONE 125 MW STEAM TURBINE AND THE OTHER TWO WILL TURN ANOTHER 125 MW STEAM TURBINE. THE TURBINE MAY OPERATE WITHOUT THE DUCT BURNER.	SELECTIVE CATALYTIC REDUCTION	2	ppmvd	@ 15% O2, 24-HR ROLLING AVG	0			0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	DLN burners and SCR	2	ppmvd	1-HOUR AVERAGE	0			0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	Dry low NOx burners and Selective Catalytic Reduction	2	ppmvd	ROLLING 24-HR AT 15% OXYGEN	0			0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	Selective catalytic reduction	2	ppmvd	@15% O2 ON A 3-HR ROLLING AVG	0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	Selective Catalytic Reduction	2	ppmvd	@15% O2, 3-HR ROLLING AVG	0			0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.	Selective catalytic reduction	2	ppmvd	@15% O2, 24-HR ROLLING AVG	0			0		
*TX-0641	PINECREST ENERGY CENTER	11/12/2013	combined cycle turbine	natural gas	700	MW	The generating equipment consists of two natural gas-fired combustion turbines (CTs), each exhausting to a fired heat recovery steam generator (HRSG) to produce steam to drive a shared steam turbine generator. The steam turbine is rated at 271 MW of electric output. Three models of combustion turbines are being considered for this site: the General Electric 7FA.05, the Siemens SGT6-5000F(4), and the Siemens SGT6-5000F(5). The final selection of the combustion turbine will not be made until after the permit is issued. Plant output will range between 637 and 735 MW, depending on the model turbine selected. Duct Burners are rated at 750 MMBtu/hr each.	selective catalytic reduction	2	ppmvd	24-HR ROLLING AVG, 15% OXYGEN	0			0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Selective catalytic reduction	2	ppmvd	CORRECTED TO 15% O2, ROLLING 24 HR AVE	0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.	Selective Catalytic Reduction	2	ppmvd	15@ O2, 3 HOUR ROLLING AVERAGE	0			0		
*TX-0689	CEDAR BAYOU ELECTRIC GENERATION STATION	8/29/2014	Combined cycle natural gas turbines	Natural Gas	225	MW		DLN, SCR	2	ppmvd	24HR ROLLING AVG.	0			0		
*TX-0698	BAYPORT COMPLEX	9/5/2013	(4) cogeneration turbines	natural gas	90	MW	(4) GE 7EA turbines providing power and process steam	DLN and Closed Loop Emissions Controls (CLEC)	5	ppmvd	@15% O2, 3-HR ROLLING AVERAGE	0			0		
*TX-0708	LA PALOMA ENERGY CENTER	2/7/2013	(2) combined cycle turbines	natural gas	650	MW	The specific equipment includes two combustion turbines (CTs) connected to electric generators, producing between 183 and 232 MW of electricity, depending on ambient temperature and the selected CT. The two HRSGs use duct burners rated at 750 MMBtu/hr each to supplement the heat energy from the CTs. The steam from the two HRSGs is combined and routed to a single steam turbine driving a third electric generator with an electricity output capacity of 271 MW. Depending on the selected CT, total plant output at 59Â°F is between 637 MW and 735 MW. The applicant is considering three models of CT; one model will be selected and the permit revised to reflect the selection before construction begins. The three CT models are: (1) General Electric 7FA.04; (2) Siemens SGT6-5000F(4); or (3) Siemens SGT6-5000F(5).	Selective Catalytic Reduction	2	ppmvd	@15% O2, 24-HR ROLLING AVERAGE	0			0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW		SCR	2	ppmvd	24HR ROLLING AVG.	0			0		
*TX-0710	VICTORIA POWER STATION	12/1/2014	combined cycle turbine	natural gas	197	MW	General Electric 7FA.04 at 197 MW nominal ouput. The duct burners will be capable of a maximum natural gas firing rate of up to 483 MMBtu/hr (HHV). The duct burners may be fired additional hours; however, total annual firing will not exceed the equivalent of 4,375 hours at maximum capacity per duct burner. The available capacity of the existing steam turbine will be increased from 125 MW in its existing 1x1x1 configuration to approximately 185 MW in the 2x2x1 configuration.	Selective Catalytic Reduction	2	ppmvd	@15% O2, 24-HR ROLLING AVERAGE	3.5	PPMVD	@15% O2, 3-HR ROLLING AVERAGE	0		
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.	Selective Catalytic Reduction	2	ppmvd	@15% O2, 24-HR ROLLING AVERAGE	0			0		

Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0713	TENASKA BROWNSVILLE GENERATING STATION	4/29/2014	(2) combined cycle turbines	natural gas	274	MW	Each CTG is site-rated at 274 MW gross electric output at 62Â°F ambient temperature. At this condition, two HRSGs with full duct burner firing produce enough steam to generate an additional 336 MW, for a total of 884 MW gross, or with about 5% losses, about 840 MW net electric output. Under summertime conditions, the net output is approximately 800 MW with the 2x1 CCGT configuration or about 400 MW with the 1x1 CCGT configuration.	Selective Catalytic Reduction	2	ppmvd	@15% O2, 24-HR ROLLING AVERAGE	0			0		
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	(2) combined cycle turbines	natural gas	240	MW	The gas turbines will be one of three options: (1) Two Siemens Model F5 (SF5) CTGs each rated at nominal capability of 225 megawatts (MW). Each CTG will have a duct fired HRSG with a maximum heat input of 688 million British thermal units per hour (MMBtu/hr). (2) Two General Electric Model 7FA (GE7FA) CTGs each rated at nominal capability of 215 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 523 MMBtu/hr. (3) Two Mitsubishi Heavy Industry G Frame (MHI501G) CTGs each rated at a nominal electric output of 263 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 686 MMBtu/hr.	Selective Catalytic Reduction	2	ppmvd	@15% O2, 24-HR ROLLING AVERAGE	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	SCR and oxidation catalyst	2	ppmvd	24-HR AVERAGE	0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner	Selective Catalytic Reduction	2	ppmvd	ROLLING 24-HR AVERAGE	0			0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	Selective Catalytic Reduction	2	ppmvd	ROLLING 24-HR AVERAGE	0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Two-stage, lean pre-mix dry low-NOx combustor and a selective catalytic reduction (SCR) control system using ammonia injection.	2	ppmvd	ONE HOUR AVERAGE	25.3	lb/hr	ONE HOUR AVERAGE	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Selective catalytic reduction and ultra low NOx burners.	2	ppmvd	1 H AVG	0			0		
*VA-0322	GREEN ENERGY PARTNERS/ STONEWALL, LLC	4/30/2013	Large combustion turbines (>25MW) CCT1 and CCT2	Natural Gas	2.23	MMBTU/hr	Throughput and Units above are for the GEF7.05. Siemens SGTF-5000F5: Throughput: 2.260 MMBTU/hr	Selective Catalytic Reduction (SCR), with ammonia injection and dry low NOx combusion.	0			0			0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LEAN PRE-MIX DRY LOW-NOX BURNERS ON CT. LOW-NOX DUCT BURNERS. SCR.	2.5	ppmvd	3-HR @ 15%O2	0			0		*SEE NOTES
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Combined Cycle Turbine/Duct Burner	Natural Gas	2419.61	mmBtu/Hr	This entry is for both of two identical units at the facility. Nominal 197 mW General Electric Frame 7FA.04 Turbine w/ Duct Burner - throughput denotes aggregate heat input of turbine and duct burner (HHV).	SCR & Dry Low-NOx Burners	15.2	lb/hr		0			2	PPM	@ 15% O2
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		SCR	3	ppmvd	1-HOUR	4.6	lb/hr	30-DAY ROLLING AVERAGE	25.5	T/YR	
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP02)	Natural Gas	40	MW		SCR	3	ppmvd	1-HOUR	4.6	lb/hr	30-DAY ROLLING AVERAGE	25.5	T/YR	
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		SCR/Low NOx Burners	2	ppmvd	3-hour block average; Duct Burners On	17	lb/hr	1-hr average; Duct Burners On			
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		SCR/Low NOx Burners	0.2	lb/MMBtu	1-hour average						
	Catoctin Power LLC		Combustion Turbine	Natural Gas	170	MW		Pipeline quality low sulfur NG; DLN combustion design; Low NOx burners; SCR	2.5	ppmvd	1 hr average; Duct Burners On						
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		SCR/Low NOx Burners	18.1	lb/hr	1-hr average; Duct Burners On	0.0074	lb/MMBtu	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		SCR/Low NOx Burners	2	ppmvd	1-hr average; Duct Burners On	0.055	lb/MW-hr	1-hr average; Duct Burners On			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		SCR	2	ppmvd	1-hr average	18.5	lb/hr	1-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		SCR	15	ppmvd	30-day average	102.4	T/YR	12-mo rolling			
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW		SCR with Dry Low Nox (DLN) Burners	3	ppmvd	1-hr average						
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			2.5	ppmvd							
	PacifiCorp Energy		Block 1 CT	Natural Gas					2	ppmvd	3-hour	14.9	lb/hr				
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			2	ppmvd	3-hour	14.9	lb/hr				
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			2	ppmvd	1-hr average						
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			2	ppmvd	1-hr average						
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			2	ppmvd	3-hr average						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			2	ppmvd	3-hr average						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			2	ppmvd	3-hr average						
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2807	MMBtu/hr			2	ppmvd							
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2307	MMBtu/hr			2	ppmvd							
	PA STATE UNIV/UNIV PARK CAMPUS		COMBINED HEAT AND POWER DUAL-FIRED COMBUSTION TURBINE	Natural Gas	86.29	MMBtu/hr			15	ppmvd							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2254	MMBtu/hr			18.4	lb/hr		17.4	lb/hr				

Table D-A-1
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			2	ppmvd	1-hr average						
	Effingham County Power		Combustion Turbine	Natural Gas	180	MW			2	ppmvd	3-hr average						
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			2	ppmvd	24-hr average	0.0073	lb/MMBtu				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			2	ppmvd		26.5	lb/hr				
	UGI Development Co/ Hunlock Creek		Combustion Turbine	Natural Gas	471.2	MMBtu/hr			2.9	ppmvd							
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0088	lb/MMBtu	3-hr rolling	185.64	T/YR				
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			2	ppmvd	1-hr rolling						
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2266	MMBtu/hr			2	ppmvd		0.0073	lb/MMBtu				
	York Energy Center Block 1				1574	MMBtu/hr			2	ppmvd	3-hour average, rolling by 1-hour						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		2	ppmvd	3-hour block average; average of 3 test runs						
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	each turbine/duct burner		2	ppmvd	1-hour average	lb/hr					
	Calpine/Bethlehem Energy Center				122	MW			2.5	ppmvd							
	Liberty Electric Power, LLC				1954	MMBtu/hr	With DB		5	ppmvd							

Table D-A-2
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating unit	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas. Permitted to burn the base-load equivalent of 500 hr/yr per turbine on ULSD.	Selective catalytic reduction; dry low-NOx; and wet injection	2	PPMVD@15% O2	GAS, 24-HR BLOCK, EXCLUDING SSM	8	PPMVD@15% O2	ULSD, 24-HR BLOCK, EXCLUDING SSM	0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Combined cycle CTG with unfired HRSG)	Natural gas	1934.7	MMBTU/H	A 1,934.7 MMBTU/H natural gas fired heavy frame industrial combustion turbine. The turbine operates in combined-cycle with an unfired heat recovery steam generator (HRSG).	SCR with DLNB (Selective catalytic reduction with dry low NOx burners).	3	PPM	24-H ROLL.AVG., EXCEPT STARTUP/SHUTDOWN	21.4	LB/H	24-H ROLL.AVG., EXCEPT STARTUP/SHUTDOWN	0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Startup/Shutdown)	Natural gas	1934.7	MMBTU/H	This emission unit is being entered as a separate process to account for the emission limits associated with startup/shutdown events, which could not be included within the previous EUCCT original process name. A 1,934.7 MMBTU/H natural gas fired heavy frame industrial combustion turbine. The turbine operates in combined-cycle with an unfired heat recovery steam generator (HRSG).	SCR with DLNB (Selective catalytic reduction with dry low NOx burners).	32	POUNDS	PER EVENT	0			0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle & Cogeneration	Natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE) Simple cycle operations limited to 2,500 hr/yr.	Selective Catalytic Reduction	2	PPM		0			0		
TX-0789	DECORDOVA STEAM ELECTRIC STATION	3/8/2016	Combined Cycle & Cogeneration	Natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE). Simple cycle operations limited to 2,500 hr/yr.	Selective Catalytic Reduction	2	PPM		0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Refrigeration Compression Turbines	Natural gas	10	M TONNES/YR	Four GE Frame 7E gas turbines for refrigeration and compression at the site	Dry low NOx burners and good combustion practices	9	PPM	ROLLING 24-HR AVERAGE	0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Simple Cycle Electrical Generation Gas Turbines 15.210	Natural gas	34	MW	Nine GE PGT25+G4 gas turbines for electrical generation at the site at 34 MW/turbine	SELECTIVE CATALYTIC REDUCTION	5	PPM	ROLLING 24-HR AVERAGE	0			0		
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Natural Gas	59900	HP	EU IDs 5-8 Combined Cycle Natural Gas-fired Combustion Turbines rated at 59,900 hp (44.7 MW)	Turbines EU IDs 5 through 8 shall be equipped with Selective Catalytic Reduction and Dry Low NOx (SCR and DLN) combustors. SCR is a post-combustion gas treatment technique for reduction of nitric oxide (NO) and nitrogen dioxide (NO2) in the turbine exhaust stream to molecular nitrogen, water, and oxygen. This process is accomplished by using ammonia (NH3) as a reducing agent, and is injected into the flue gas upstream of the catalyst bed. By lowering the activation energy of the NOx decomposition removal efficiency of 80 to 90 percent are achievable. DLN combustors utilize multistage premix combustors where the air and fuel is mixed at a lean fuel to air ratio. The excess air in the lean mixture acts as a heat sink, which lowers peak combustion temperatures and also ensures a more homogeneous mixture, both resulting in greatly reduced NOx formation rates. DLN can reduce emissions by about 60%	5	PPMVD	4-HOUR	0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	2 COMBUSTION TURBINES	NATURAL GAS	170	MW	EACH TURBINE WILL PRODUCE 170 MW	SELECTIVE CATALYTIC REDUCTION	2	PPMVD	AT 15% O2, 3-HR AVG	14.8	lb/hr		0		
CA-1177	OTAY MESA ENERGY CENTER LLC	7/22/2009	Gas turbine combined cycle	Natural gas	171.7	MW		SCR	2	PPMVD	1 HOUR	0			0		
CA-1178	APPLIED ENERGY LLC	3/20/2009	Gas turbine combined cycle	Natural gas	0		Source test results: 1.45 ppm NOx @ 15% O2 or 2.19 lb/hr <0.22 ppm VOC @15%O2 or <0.12 lb/hr	SCR	2	PPMVD	1 HOUR	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	SCR	2	PPMVD	@15% O2, 1-HR AVG (NO DUCT BURNING)	11.55	lb/hr	1-HR AVG (NO DUCT BURNING)	0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	Natural Gas	154	MW	154 MW Combined Cycle Combustion Turbine Generator	SCR	2	PPMVD	1-HR AVG, @15% O2 (NO DUCT BURNING)	11.55	lb/hr	1-HR AVG, (NO DUCT BURNING)	0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	180	MW		SCR, DRY LOW NOX COMBUSTORS	2	PPMVD	@15% O2, 1-HR AVG	13.55	lb/hr	1-HR AVG	0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #2 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	180	MW		SCR, DRY LOW NOX COMBUSTORS	2	PPMVD	@15% O2, 1-HR AVG	13.55	lb/hr	1-HR AVG	0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	DRY LOW NOX (DLN) COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR)	2	PPMVD	@15% O2, 1-HR AVG	0			0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	LOW NOX BURNERS AND SCR	3	PPMVD	HOURLY MAX	0.013	LB/MMBTU	SEE NOTE	3	PPM @ 15% O2	
*CO-0073	PUEBLO AIRPORT GENERATING STATION	7/22/2010	Four combined cycle combution turbines	natural gas	373	mmbtu/hr	Three GE, LMS6000 PF, natural gas-fired, combined cycle CTG, rated at 373 MMBtu per hour each, based on HHV and one (1) HRSG each with no Duct Burners	Dry Low NOx (DLN) Combustor and Selective Catalytic Reduction (SCR)	3	PPMVD	1-HR AVE	4.1	lb/hr	30-DAY ROLLING AVE	0		

Table D-A-2
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.	Selective Catalytic Reduction	5.76	lb/hr	1 HR AVERAGE	2.5	PPMVD	@ 15% OXYGEN BASED ON A 1 HOUR AVERAGE	0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Low NOx Combustors, Selective Catalytic Reduction	2	PPMVD	HOURLY AS BASELOAD ON NAT. GAS	6	PPMVD	3 HOUR AVERAGE ON ULSD OIL	0		
FL-0265	HINES POWER BLOCK 4	6/8/2005	COMBINED CYCLE TURBINE	NATURAL GAS	530	MW		SCR	2.5	PPMVD	NATURAL GAS	10	PPMVD	OIL	2.5	PPM @ 15% O2	
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	COMBINED CYCLE COMBUSTION GAS TURBINES - 6 UNITS	NATURAL GAS	2333	MMBTU/H	2117 MMBTU/HR FUEL OIL. EACH COMBINED CYCLE UNIT SYSTEM (TWO ‘‘3-ON-1‘‘) WILL CONSIST OF: THREE NOMINAL 250 MEGAWATT MODEL 501G GAS TURBINE-ELECTRICAL GENERATOR SETS WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSGÂ¿S) WITH SCR REACTORS; ONE NOMINAL 428 MMBTU/HOUR (LHV) GAS-FIRED DUCT BURNER LOCATED WITHIN EACH OF THE THREE HRSGÂ¿S; THREE 149 FEET EXHAUST STACKS; ONE 26 CELL MECHANICAL DRAFT COOLING TOWER; AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.	DRY LOW NOX AND SCR WATER INJECTION	2	PPMVD	24-HR (GAS)	8	PPMVD	24-HR (OIL)	0		
FL-0303	FPL WEST COUNTY ENERGY CENTER UNIT 3	7/30/2008	THREE NOMINAL 250 MW CTG (EACH) WITH SUPPLEMENTARY-FIRED HRSG	NATURAL GAS	2333	MMBTU/H	FUELHEAT INPUT RATE (LHV): OIL2,117 MMBTU/H COMBINED CYCLE UNIT 3 WILL CONSIST OF: THREE NOMINAL 250 MW COMBUSTION TURBINE-ELECTRICAL GENERATORS (CTG) WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSG) WITH SELECTIVE CATALYTIC REDUCTION (SCR) REACTORS AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.	DRY LOW NOX SELECTIVE CATALYST REDUCTION	2	PPMVD	24 HOURS	8	PPMVD	24 HOURS	0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	SCR	2	PPMVD	24-HR	0			0		
FL-0337	POLK POWER STATION	10/14/2012	Combine cycle power block (4 on 1)	natural gas	1160	MW	Basis for the emission standard is either NSPS Subpart KKKK or Department BACT determinations. The BACT emission standards for NOX while operating in combined cycle are more stringent than the corresponding Subpart KKKK emissions standards of 15 and 42 ppmvd @15% O2 on a 30-day rolling average for natural gas and fuel oil, respectively.	SCR/DLN	2	PPMVD	24-HR BLOCK (GAS) CEMS	8	PPMVD	24-HR BLOCK (OIL) CEMS	0		
GA-0138	LIVE OAKS POWER PLANT	4/8/2010	COMBINED CYCLE COMBUSTION TURBINE - ELECTRIC GENERATING PLANT	NATURAL GAS	600	MW		DRY LOW NOx BURNERS, SELECTIVE CATALYTIC REDUCTION	2.5	PPMVD	3 HOUR AVERAGE/CONDITION 2.11	87	T/YR	12 CONSECUTIVE MONTH AVERAGE/CONDITION 2	0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.	Low-NOx burners and SCR	2	PPMVD	30-DAY ROLLING AVG. @15% O2	114.5	T/YR	12-MONTH ROLLING TOTAL	0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr		SCR, Low-NOx burner	2	PPMVD	30-DAY ROLLING AVERAGE	114.5	T/YR	12-MONTH ROLLING TOTAL	0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		LOW NOX BURNERS AND SELECTIVE CATLYTIC REDUCTION (SCR) ADD-ON CONTROLS	21.8	lb/hr	HOURLY MAXIMUM	95.5	T/YR	ANNUAL MAXIMUM	3	PPM	ANNUAL AVERAGE
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	water injection	22.94	lb/hr	HOURLY MAXIMUM	0			20	PPMV	AT 15% O2
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.	Low NOx burners	9	PPMVD	24-HR ROLLING AVERAGE	36.9	lb/hr	24-HR ROLLING AVERAGE	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Dry low NOx (DLN) burner and selective catalytic reduction (SCR) system.	2	PPMVD	EACH CTG; 24-H ROLLING AVG.	16.2	lb/hr	EACH CTG; 24-H ROLLING AVG.	0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Low NOx burners and selective catalytic reduction.	3	PPMVD	24-H ROLLING AVERAGE	760	lb/hr	1-H AVERAGE	0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		SELECTIVE CATALYTIC REDUCTION (SCR) AND WATER INJECTION	0.01	LB/MMBTU	3 HR ROLLING AVERAGE	2	PPMVD	3 HR ROLLING AVERAGE	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Combined Cycle Combustion Turbine -Siemens turbine without Duct Burner	Natural gas	33691	MMCubic ft/yr	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each Siemens combustion turbine will be 2,356 MMBtu/hr(HHV)	Selective Catalytic Reduction and Dry Low NOx	2	PPMVD	3-HR ROLLING AVE BASED ON 1-HR BLOCK	19	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITHOUT DUCT BURNER - GENERAL ELECTRIC	Natural Gas	33691	MMCF/YR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion turbine will be 2,312 MMBtu/hr(HHV)	Selective Catalytic Reduction System (SCR) and Dry Low NOx	2	PPMVD	3-HR ROLLING AVERAE BASED ON 1-HR BLOCK	16.8	lb/hr	AVERAGE OF THREE ONE-HOUR TESTS	0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine without Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burner.	Selective Catalytic Reduction System (SCR) and use of natural gas a clean burning fuel	2	PPMVD	3-HR ROLLING AVE BASED ON 1-HR BLOCK	17.33	lb/hr	3-HR ROLLING AVE BASED ON 1-HR BLOCK	0		

Table D-A-2
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NY-0098	ATHENS GENERATING PLANT	1/19/2007	FUEL COMBUSTION (GAS)	NATURAL GAS	3100	MMBTU/H	THE FACILITY CONSISTS OF 3 WESTINGHOUSE MODEL 501G GAS COMBINED CYCLE TURBINES (245 MW BASE LOAD), HEAT RECOVERY STEAM GENERATORS, AND STEAM TURBINE GENERATORS (115 MW) WITH SELECTIVE CATYALYTIC REDUCTION (SCR) FOR NOX EMISSION CONTROL. NOX EMISSIONS FROM THE TURBINES ARE ADDITIONALLY CONTROLLED BY AMMONIUM HYDROXIDE INJECTION.	THE TURBINES EMPLOY DRY LOW NOX TECHNOLOGY AND NORMALLY OPERATE ON GAS. NOX EMISSIONS ARE ADDITIONALLY CONTROLLED BY SELECTIVE CAT ALYTIC REDUCTION WITH AMMONIUM HYDROXIDE INJECTION.	2	PPMVD	3 HOUR BLOCK AVAEAGE/STEA DY STATE	23.4	lb/hr	3 HOUR BLOCK AVAEAGE/STEA DY STATE	2	PPMVD @ 15% O2	3 HOUR BLOCK AVAEAGE/STEA DY STATE
NY-0100	EMPIRE POWER PLANT	6/23/2005	FUEL COMBUSTION (NATURAL GAS)	NATURAL GAS	2099	MMBTU/H		DRY LOW NOX COMBUSTION TECHNOLOGY IN COMBINATION WITH SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM	2	PPMVD	3-HOUR BLOCK AVE./ STEADY STATE	14.59	lb/hr	3-HOUR BLOCK AVE./ STEADY STATE	2	PPMVD AT 15% O2	3-HOUR BLOCK AVE./ STEADY STATE
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	selective catalytic reduction (SCR); dry low NOx combustors; lean fuel technology	22	lb/hr		92	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, without duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	selective catalytic reduction (SCR); dry low NOx combustors; lean fuel technology	22.6	lb/hr		94.8	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners Off	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners off. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Dry Low NOx burners and Selective Catalytic Reduction	21.1	lb/hr		120.9	T/YR	PER ROLLING 12 MONTHS	3	PPM	PPMVD AT 15% O2 ON 3-H BLOCK AVERAGE
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					DRY LOW NOX	9	PPMVD		0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	SCR AND DRY LOW-NOX	2	PPMVD	1-H AVG @ 15% O2	15.25	lb/hr	1-H AVG	0		
OR-0048	CARTY PLANT	12/29/2010	COMBINED CYCLE NATURAL GAS-FIRED ELECTRIC GENERATING UNIT	NATURAL GAS	2866	MMBTU/H		SELECTIVE CATALYTIC REDUCTION (SCR)	2	PPMVD	3-HOUR ROLLING	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.	SCR	2	PPMVD	WITH OR WITHOUT DUCT BURNER	17.25	T/YR	INCLUDING START UP AND SHUR DOWN	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst	SCR	131.6	T/YR	12-MONTH ROLLING TOTAL	0			0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						1600	lb/hr		1752	T/YR		0		
TX-0546	PATTILLO BRANCH POWER PLANT	6/17/2009	ELECTRICITY GENERATION	NATURAL GAS	350	MW	EACH TURBINE/HRSG WILL BE DESIGNED TO OUTPUT 350 MW. TURBINES BEING CONSIDERED FOR THE PROJECT ARE GE 7FA, GE 7FB, AND SIEMENS SGT6-5000F.	SELECTIVE CATALYTIC REDUCTION	2	PPMVD	@ 15% O2 24-HR ROLLING AVG	0			0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	DLN burners and SCR	2	PPMVD	1-HOUR AVERAGE	0			0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	Dry low NOx burners and Selective Catalytic Reduction	2	PPMVD	ROLLING 24-HR AT 15% OXYGEN	0			0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.	Selective catalytic reduction	2	PPMVD	@15% O2, 24-HR ROLLING AVG	0			0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Selective catalytic reduction	2	PPMVD	CORRECTED TO 15% O2, ROLLING 24 HR AVE	0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.	Selective Catalytic Reduction	2	PPMVD	15@ O2, 3 HOUR ROLLING AVERAGE	0			0		
*TX-0689	CEDAR BAYOU ELECTRIC GENERATION STATION	8/29/2014	Combined cycle natural gas turbines	Natural Gas	225	MW		DLN, SCR	2	PPMVD	24HR ROLLING AVG.	0			0		
*TX-0698	BAYPORT COMPLEX	9/5/2013	(4) cogeneration turbines	natural gas	90	MW	(4) GE 7EA turbines providing power and process steam	DLN and Closed Loop Emissions Controls (CLEC)	5	PPMVD	@15% O2, 3-HR ROLLING AVERAGE	0			0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW		SCR	2	PPMVD	24HR ROLLING AVG.	0			0		
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.	Selective Catalytic Reduction	2	PPMVD	@15% O2, 24-HR ROLLING AVERAGE	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	SCR and oxidation catalyst	2	PPMVD	24-HR AVERAGE	0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Two-stage, lean pre-mix dry low-NOx combustor and a selective catalytic reduction (SCR) control system using ammonia injection.	2	PPMVD	ONE HOUR AVERAGE	25.3	lb/hr	ONE HOUR AVERAGE	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Selective catalytic reduction and ultra low NOx burners.	2	PPMVD @ 15% O2	1 H AVG	0			0		

Table D-A-2
Nitrogen Oxides (NOx) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*VA-0322	GREEN ENERGY PARTNERS/ STONEWALL, LLC	4/30/2013	Large combustion turbines (>25MW) CCT1 and CCT2	Natural Gas	2.23	MMBTU/hr	Throughput and Units above are for the GEF7.05. Siemens SGTF-5000F5: Throughput: 2.260 MMBTU/hr	Selective Catalytic Reduction (SCR), with ammonia injection and dry low NOx combusion.	0			0			0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		SCR	3	PPMVD	1-HOUR	4.6	lb/hr	30-DAY ROLLING AVERAGE	25.5	T/YR	
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP02)	Natural Gas	40	MW		SCR	3	PPMVD	1-HOUR	4.6	lb/hr	30-DAY ROLLING AVERAGE	25.5	T/YR	
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		SCR/Low NOx Burners	2	PPMVD	3-hour block average; Duct Burners Off	15.6	lb/hr	3-hour block average; Duct Burners Off			
	Catoctin Power LLC		Combustion Turbine	Natural Gas	170	MW		Pipeline quality low sulfur NG; DLN combustion design; Low NOx burners; SCR	2	PPMVD	Duct Burners Off						
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		SCR/Low NOx Burners	17	lb/hr	1-hr average; Duct Burners Off	0.0074	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		SCR/Low NOx Burners	2	PPMVD	1-hr average; Duct Burners Off	0.051	lb/MW-hr	1-hr average; Duct Burners Off			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		SCR	2	PPMVD	1-hr average	18.5	lb/hr	1-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		SCR	15	PPMVD	30-day average	102.4	T/YR	12-mo rolling			
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			2.5	PPMVD							
	PacifiCorp Energy		Block 1 CT	Natural Gas					2	PPMVD	3-hour	14.9	lb/hr				
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			2	PPMVD	3-hour	14.9	lb/hr				
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			2	PPMVD	1-hr average						
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			40	PPMVD							
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			2	PPMVD	1-hr average						
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			2	PPMVD	3-hr average						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			2	PPMVD	3-hr average						
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2307	MMBtu/hr			2	PPMVD							
	PA STATE UNIV/UNIV PARK CAMPUS		COMBINED HEAT AND POWER DUAL-FIRED COMBUSTION TURBINE	Natural Gas	86.29	MMBtu/hr			15	PPMVD							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2254	MMBtu/hr			2	PPMVD		18.4	lb/hr				
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			2	PPMVD	1-hr average						
	Effingham County Power		Combustion Turbine	Natural Gas	180	MW			2	PPMVD	3-hr average						
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			2	PPMVD	24-hr average	0.0073	lb/MMBtu				
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2542	MMBtu/hr			2	PPMVD		20.2	lb/hr				
	McDonough-Atkinson Steam-Electric Generating Plant			Natural Gas					6	PPMVD	30 day rolling average						
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			2	PPMVD	1-hour	16.5	lb/hr				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			2	PPMVD		26.5	lb/hr				
	UGI Development Co/ Hunlock Creek		Combustion Turbine	Natural Gas	471.2	MMBtu/hr			2.5	PPMVD							
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.011	lb/MMBtu	3-hr rolling	185.64	T/YR				
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			2	PPMVD	3-hr rolling	0.0073	lb/MMBtu				
	York Energy Center Block 1				1574	MMBtu/hr			2	PPMVD	3-hour average, rolling by 1-hour						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		2	PPMVD	3-hour block average; average of 3 test runs						
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	each turbine/duct burner		2	PPMVD	1-hour average	lb/hr					
	Calpine/Bethlehem Energy Center				122	MW			2.5	PPMVD							
	Liberty Electric Power, LLC				1954	MMBtu/hr	Without DB		3.5	PPMVD							

Table D-A-3
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/Duct Firing	Natural Gas	2639	MMBtu/hr	Duct burner MRC is 946 MMbtu/hr	Oxidation Catalyst	1.7	LB/MMBTU	1 HOUR BLOCK	0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1A	Natural Gas	3625	MMBTU/hr		Catalytic Oxidation and good combustion practices during normal operations, and good combustion practices during startup/shutdown operations.	125.21	LB/H	HOURLY MAXIMUM	388.55	T/YR	ANNUAL MAXIMUM	2	PPM@15% O2	24-HOUR ROLLING AVERAGE
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1B	Natural Gas	3625	MMBTU/hr		Catalytic oxidation and good combustion practices during normal operations, and good combustion practices during startup/shutdown operations.	125.21	LB/H	HOURLY MAXIMUM	388.55	T/YR	ANNUAL MAXIMUM	2	PPM@15% O2	24-HOURLY ROLLING AVERAGE
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3 (3 combined cycle combustion turbine and heat recovery steam generator trains)	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG includes a natural gas fired duct burner with a 256 MMBtu/hr heat input capacity and a dry low NOx burner.	Oxidation catalyst technology and good combustion practices.	2	PPMVD	EACH CT/HRSG TRAIN; 24-HR ROLL AVG	357	T/YR	EACH CT/HRSG TRAIN; 12-MO ROLL TIME PER.	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.	Oxidation catalyst technology and good combustion practices.	4	PPMV	AT 15%O2; 240HR ROLL AVG; NOT S.S.	788.6	LB/H	OPERATING HR DURING STARTUP OR SHUTDOWN	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.	Oxidation catalyst technology and good combustion practices.	4	PPMVD	AT 15%O2; 24-H ROLL AVG; NOT INCL ST/SH	788.6	LB/H	OPERATING HR DURING STARTUP OR SHUTDOWN	0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine firing Natural Gas with Duct Burner	natural gas	4000	lb/yr	NEW: 627 MEGAWATT (MW) NOMINAL NET CAPACITY CONFIGURED OF: 1. ONE GENERAL ELECTRIC (GE) 7HA.02 CCCT NOMINALLY RATED AT 380 MW AT ISO CONDITIONS WITHOUT DUCT FIRING WITH A MAXIMUM HEAT INPUT RATE OF: O 3,462 MMBTU/HR(HHV) AT (0) DEGREES F, 100% LOAD COMBUSTING NATURAL GAS O 3,613 MMBTU/HR(HHV) AT (0) DEGREES F, 100% LOAD COMBUSTING ULSD WHICH WILL BE THE BACKUP FUEL OTHER EQUIPMENT INCLUDES: 2. ONE NATURAL GAS-FIRED DUCT BURNER (MAXIMUM HEAT INPUT OF 599 MMBTU/HR(HHV)) FOR SUPPLEMENTAL FIRING. 3. ONE 97.5 MMBTU/HR(HHV) NATURAL GAS FIRED AUXILIARY BOILER, EQUIPPED WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION FOR CONTROL OF NOX EMISSIONS; 4. ONE 2.25 MMBTU/HR(HHV), 327 BRAKE HORSEPOWER, ULSD FIRED EMERGENCY FIRE PUMP; 5. ONE 14.4 MMBTU/HR(HHV), APPROXIMATELY 1,500 KW ULSD FIRED EMERGENCY GENERATOR; AND 6. ONE 8-CELL, 124,800 GALLON PER MINUTE (GPM) MECHANICAL INDUCED DRAFT COOLING TOWER.	Oxidation Catalyst and good combustion practices	2	PPMVD@15%O2	3 H ROLLING AV BASED ON ONE H BLOCK AV	18.1	LB/H	AV OF THREE ONE H STACK TESTS EVERY 5 YR	0		
*PA-0306	TENASKA PA PARTNERS/WESTMORELAND GEN FAC	2/12/2016	Large combustion turbine	Natural Gas	0		This process entry is for operations with the duct burner. Limits entered are for each turbine.	Oxidation Catalyst and good combustion practice	15.9	LB/HR	3 HR AVERAGE	318.6	TPY	12 MONTH ROLLING BASIS	0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG with duct burner NG only	Natural Gas	3338	MMBtu/hr	Emission limits are for each turbine operating with duct burner and do not include startup/shutdown emissions. Tons per year limits is a cumulative value for all three CCCT. CEMS for NOx, CO, and O2. Each CCCT and duct burner have 5 operational scenarios: 1 CCCT with duct burner fired - fueled by NG only 2 CCCT with duct burner fired - fueled by NG blend with ethane 3 CCCT without duct burner fired - fueled by NG only 4 CCCT without duct burner fired - fueled by NG blend with ethane 5 CCCT without duct burner fired - fueled by ULSD (Limited to emergency use only)	Oxidation catalyst operated at all steady state operating loads and good combustion practices	2	PPMDV @ 15% O2		84.9	TONS	YEAR	0		
TN-0162	JOHNSONVILLE COGENERATION	4/19/2016	Natural Gas-Fired Combustion Turbine with HRSG	Natural Gas	1339	MMBtu/hr	Turbine throughput is 1019.7 MMBtu/hr when burning natural gas and 1083.7 MMBtu/hr when burning No. 2 oil. Duct burner throughput is 319.3 MMBtu/hr. Duct burner firing will occur during natural gas combustion only.	Good combustion design and practices, oxidation catalyst	2	PPMVD @ 15% O2	30 UNIT-OPERATING-DAY MOVING AVERAGE	10	PPMVD @ 15% O2	15 UNIT-OPERATING-DAY MOVING AVERAGE	0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat Recovery Steam Generator, fired Duct Burners, and Steam Turbine Generator	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Selective Catalytic Reduction (SCR) and Dry Low NOx burners	2	PPMVD	15% O2 3-H AVG	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	COMBUSTION TURBINE GENERATOR WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATORS (3)	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Oxidation Catalyst	1.6	PPMVD	3 HR AVG	286	TONS/YR	12 MO ROLLING AVG	0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	GE 7HA.02 Turbine	Natural Gas	3496.2	mmBtu/hr	Nominal 640 mWe All emission limits steady-state and include 1000 mmBtu/hr Duct Burner in operation Short Term startup and shutdown limits in lb/event given in permit.	Oxidation Catalyst, Good Combustion Practices	20	LB/HR	1-HOUR AVERAGE	124	TONS/YEAR		2	PPM	
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	2 COMBUSTION TURBINES	NATURAL GAS	170	MW	EACH TURBINE WILL PRODUCE 170 MW		4	PPMVD	AT 15% O2, 3-HR AVG	18	lb/hr		0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	OXIDATION CATALYST SYSTEM	3	PPMVD	@15% O2, 1-HR AVG (W/ DUCT BURNING)	13.35	lb/hr	1-HR AVG (W/ DUCT BURNING)	0		

Table D-A-3
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	180	MW		OXIDATION CATALYST SYSTEM	2	PPMVD	@15% O2, 1-HR AVG	10	lb/hr	1-HR AVG	0		
CA-1195	ELK HILLS POWER LLC	1/12/2006	COMBUSTION TURBINE GENERATOR, 2 units (Normal Operation)	NATURAL GAS	166	MW	Each CTG system will generate 166 MW under design ambient conditions with steam power augmentation from the duct burners, and 153 MW without steam augmentation.	SCR OR SCONOX	4	PPMVD	@15% O2, 1-HR AVG	12.5	lb/hr	1-HR AVG	0		
CA-1209	HIGH DESERT POWER PROJECT	3/11/2010	COMBUSTION TURBINE GENERATORS (NORMAL OPERATION)	NATURAL GAS	190	MW	THREE (3) COMBUSTION TURBINE GENERATORS AT 190 MW EACH AND EQUIPPED WITH A 160 MMBTU/HR DUCT BURNER AND HRSG	OXIDATION CATALYST SYSTEM	4	PPMVD	@15% O2, 24-HR AVG	17.53	lb/hr	24-HR AVG	0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.	CATALYTIC OXIDATION SYSTEM	3	PPMVD	@15% O2, 3-HR ROLLING AVG	17.9	lb/hr	3-HR ROLLING AVG	0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	USE GOOD COMBUSTION CONTROL PRACTICES AND CATALISTIC OXIDATION.	3	PPM @ 15% O2		0.044	LB/MMBTU	MONTHLY AV	3	PPM @ 15 O2	
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	THROUGHPUT IS FOR TURBINE ONLY WHEN FIRING NATURAL GAS TURBINE: 2136 MMBTU/HR (2.095 MMCF/HR) DUCT BURNER: 445 MMBTU/HR (0.436 MMCF/HR) EMISSION RATES ARE FOR EACH COMBUSTION TURBINE FIRING NATURAL GAS, NOT COMBINED.	CO CATLYST	4.3	lb/hr	W/OUT DUCT BURNER	8.4	lb/hr	W/DUCT BURNER	0.9	PPMVD @ 15 % O2	1 HR-BLOCK (W/OUT DUCT BURNER)
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.	Oxidation Catalyst System	19.54	lb/hr	1 HOUR AVERAGE	0.032	LB/MMBTU	1 HOUR AVERAGE	0		
FL-0263	FPL TURKEY POINT POWER PLANT	2/8/2005	170 MW COMBUSTION TURBINE, 4 UNITS	NATURAL GAS	170	MW	GENERATING CAPACITY: EACH OF THE FOUR GAS TURBINES HAS A NOMINAL GENERATING CAPACITY OF 170 MW FOR GAS FIRING (180 MW FOR OIL FIRING). EACH OF THE FOUR HEAT RECOVERY STEAM GENERATORS (HRSGS) PROVIDES STEAM TO THE SINGLE STEAM TURBINE ELECTRICAL GENERATOR, WHICH HAS A NOMINAL CAPACITY OF 470 MW. THE TOTAL NOMINAL GENERATING CAPACITY OF THE 4-ON-1 COMBINED CYCLE UNIT IS 1150 MW. FUELS: EACH GAS TURBINE WILL FIRE NATURAL GAS AS THE PRIMARY FUEL AND ULTRA LOW SULFUR (0.0015% SULFUR) DISTILLATE OIL AS A RESTRICTED ALTERNATE FUEL. EMISSIONS OF ALL POLLUTANTS INCREASE WITH THE FIRING OF OIL. THE APPLICANT REQUESTS 500 HOURS PER YEAR PER GAS TURBINE (OR EQUIVALENT) FOR OIL FIRING. MODES OF OPERATION: STANDARD NORMAL OPERATION, WITH DUCT BURNER, POWER AUGMENTATION AND PEAKING.	CO WILL BE MINIMIZED BY THE EFFICIENT COMBUSTION OF NATURAL GAS AND DISTILLATE OIL AT HIGH TEMPERATURES	8	PPMVD @ 15 % O2	24-HR AVG. TIME (CT & DUCT BURNER)	4.1	PPMVD @ 15 % O2	STACK TEST (CT NORMAL OPERATION)	7.6	PPM @ 15 % O2	STACK TEST (CT & DUCT BURNER)
FL-0265	HINES POWER BLOCK 4	6/8/2005	COMBINED CYCLE TURBINE	NATURAL GAS	530	MW		GOOD COMBUSTION	8	PPM	NATURAL GAS	12	PPM	OIL	8	PPM @ 15% O2	
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	COMBINED CYCLE COMBUSTION TURBINE SYSTEM (4-ON-1)	NATURAL GAS	1972	MMBTU/H	1876 MMBTU/HR WHEN FIRING DISTILLATE FUEL OIL. THE SYSTEM NOMINAL CAPACITY 1280 MW. EACH UNIT NOMINAL CAPACITY 215 MW (ISO) WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATOR.	GOOD COMBUSTION	8	PPMVD	24-HR BLOCK AVERAGE CEMS	0			0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	COMBINED CYCLE COMBUSTION GAS TURBINES - 6 UNITS	NATURAL GAS	2333	MMBTU/H	2117 MMBTU/HR FUEL OIL. EACH COMBINED CYCLE UNIT SYSTEM (TWO ‘‘3-ON-1‘‘) WILL CONSIST OF: THREE NOMINAL 250 MEGAWATT MODEL 501G GAS TURBINE-ELECTRICAL GENERATOR SETS WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSGÃ¿S) WITH SCR REACTORS; ONE NOMINAL 428 MMBTU/HOUR (LHV) GAS-FIRED DUCT BURNER LOCATED WITHIN EACH OF THE THREE HRSGÃ¿S; THREE 149 FEET EXHAUST STACKS; ONE 26 CELL MECHANICAL DRAFT COOLING TOWER; AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.		8	PPMVD @15%O2	24-HR	0			0		
FL-0303	FPL WEST COUNTY ENERGY CENTER UNIT 3	7/30/2008	THREE NOMINAL 250 MW CTG (EACH) WITH SUPPLEMENTARY-FIRED HRSG	NATURAL GAS	2333	MMBTU/H	FUEL HEAT INPUT RATE (LHV): OIL2,117 MMBTU/H COMBINED CYCLE UNIT 3 WILL CONSIST OF: THREE NOMINAL 250 MW COMBUSTION TURBINE-ELECTRICAL GENERATORS (CTG) WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSG) WITH SELECTIVE CATALYTIC REDUCTION (SCR) REACTORS AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.	GOOD COMBUSTION	6	PPMVD (GAS)	12-MONTH	8	PPMVD (OIL)	24-HOUR	0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H		GOOD COMBUSTION PRACTICES	6	PPMVD	12-MONTH	8	PPMVD	24-HR	0		
GA-0127	PLANT MCDONOUGH COMBINED CYCLE	1/7/2008	COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	254	MW	6 TURBINES, 254 MW EACH (NOT INCLUDING STEAM RECOVERY), LIMITS ARE FOR EACH TURBINE (MITSUBISHI MODEL M501G). BACKUP FUEL FOR TWO TURBINES IS ULTRA-LOW SULFUR FUEL OIL.	OXIDATION CATALYST	1.8	PPMVD @ 15% O2	3-HOUR	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	catalytic oxidizer	2	PPM	30-DAY ROLLING AVG. @15% O2	552.4	TON/YR	12-MONTH ROLLING TOTAL	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	COMBUSTION TURBINE, COMBINED CYCLE W/ DUCT BURNER	NATURAL GAS (ONLY)	2375.28	MMBTU/H	SIEMENS SGT6-5000F COMBUSTION TURBINE (NGCT, CCGT) FOR ELECTRICAL GENERATION, NOMINAL 269 MW AND 2.1466 MMSCF/HR	CATALYTIC OXIDATION (CATOX), DRY LOW NOX (DLN), GOOD COMBUSTION PRACTICES (GCP)	2	PPMVD	3-HR ROLLING / 15% O2	24.5	PPMVD	3-HR ROLLING / 15% O2 DURING LL	2510	LB/H	1-HR / 15% O2 DURING SU/SD
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		5	PPMVD @ 15% O2	HOURLY AVG EXCEPT DURING SSM OR TUNING	0			0		

Table D-A-3
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	OXIDATION CATALYST	2	PPMVD	3 HOURS	0			0		
LA-0136	PLAQUEMINE COGENERATION FACILITY	7/23/2008	(4) GAS TURBINES/DUCT BURNERS	NATURAL GAS	2876	MMBTU/H	VISUAL INSPECTION FOR OPACITY ON A WEEKLY BASIS, STACK TESTS FOR PM, NOX, SO2, OPACITY, CO EMISSION POINTS GT-500, -600, -700, -800.	GOOD COMBUSTION PRACTICES	212.5	lb/hr	HOURLY MAXIMUM	625.8	T/YR	ANNUAL MAXIMUM	25	PPMVD @ 15% O2	ANNUAL AVERAGE
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	17.7	lb/hr	HOURLY MAXIMUM	77.5	T/YR	ANNUAL MAXIMUM	4	PPM @ 15%O2	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	TWO COMBINED CYCLE GAS TURBINES	NATURAL GAS	2110	MMBTU/H	CTG-1 TURBINE/DUCT BURNER (EQT012) CTG-2 TURBINE/DUCT BURNER(EQT013)	PROPER OPERATING PRACTICES	143.31	lb/hr	MAX	0			10	PPMVD@15%O2	ANNUAL AVERAGE
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	TURBINES ALSO PERMITTED TO BURN NO. 2 FUEL OIL AND ULTRA LOW SULFUR DIESEL. FUEL OIL USE IS LIMITED TO 1000 HOURS PER YEAR.	OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	3	PPMVD @ 15% O2	HOURLY AVERAGE	0			3	PPMVD @ 15% O2	HOURLY AVERAGE
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	43.6	lb/hr	HOURLY MAXIMUM	0			58.4	PPMV	AT 15% O2
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Combustion Turbine with Duct Burner	Natural Gas	2449	MMBtu/hr	two 315 MW (nominal) GE Energy 7F Series 5 Rapid Response Combined Cycle Combustion Turbines with Duct Burners and 31 MW (estimated) steam turbine generators	oxidation catalyst	2	PPMVD@15% O2	1 HR AVG, DOES NOT APPLY DURING SS	0.0045	LB/MMBTU	1 HR AVG, DOES NOT APPLY DURING SS	0		
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	2	PPMVD @ 15% O2	3-HOUR BLOCK AVERAGE, EXCLUDING SU/SD	0			0		
MI-0366	BERRIEN ENERGY, LLC	4/13/2005	3 COMBUSTION TURBINES AND DUCT BURNERS	NATURAL GAS	1584	MMBTU/H	EACH TURBINE IS EQUIPPED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG). EACH HRSG IS EQUIPPED WITH A NATURAL GAS FIRED DUCT BURNER (650 MMBTU/H). TOTAL NOMINAL PLAN GENERATING CAPACITY WITHOUT DUCT FIRING IS 800 MW. A MAX OUTPUT OF 1100 MW THROUGH SUPPLEMENTAL FIRING OF HRSGS.	CATALYTIC OXIDATION.	2	PPMDV @ 15% O2	3-HOUR BLOCK	165.5	T/YR		2	PPM @ 15% O2	
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		0.048	LB/MMBTU	24-HR ROLLING AVERAGE	53.6	lb/hr	24-HR ROLLING AVERAGE	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	9	PPM	EACH CTG; 24-H ROLLING AVG.	43.9	lb/hr	EACH CTG; 24-H ROLLING AVG.	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	This process is permitted in a flexible group format, identified in the permit as FG-CTG/DB1-2 and is for two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system. Additionally, the HRSG is operating with a natural gas fired duct burner for supplemental firing. The throughput is 2,486 MMBTU/H for each CTG/DB.	Good combustion practices	10.5	PPM	EACH CTG/DB; 24-H ROLLING AVG.	57.6	lb/hr	EACH CTG/DB; 24-H ROLLING AVG.	0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Efficient combustion control plus catalytic oxidation system.	4	PPMV	24-H ROLL AVG DET. EACH H TURBINE OPERAT	3159	lb/hr	4-H ROLL AVG	0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	FG-CTGHRSG: 2 Combined cycle CTGs with HRSGs with duct burners	natural gas	647	MMBTU/H for each CTGHRSG	This process is identified in the permit as FGCTGHRSG; it is 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSGs) equipped with duct burners for supplemental firing (EUCTGHRSG1 & EUCTGHRSG2 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. Each CTGHRSG shall not exceed 647 MMBtu/hr on a fuel heat input basis.	Oxidation catalyst technology and good combustion practices.	4	PPM	24-H ROLL. AVG., NOT STARTUP/SHUT DOWN	5.31	lb/hr	24-H ROLL AVG., NOT STARTUP/SHUT DOWN	0		
MN-0066	NORTHERN STATES POWER CO. DBA XCEL ENERGY - RIVERSIDE PLANT	5/16/2006	TURBINE, COMBINED CYCLE (2)	NATURAL GAS	1885	mmbtu/h	TWO COMBUSTION TURBINES, THROUGHPUT FOR EACH	GOOD COMBUSTION PRACTICES	10	PPMVD @ 15% O2	3-HR BLOCK	0			10	PPM @ 15% O2	
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.	GOOD COMBUSTION PRACTICES AND EFFICIENT PROCESS DESIGN.	11.6	PPM @ 15% O2	3-hour average	0			11.6	PPM @ 15% O2	
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE & DUCT BURNER, COMBINED CYCLE, NAT GAS, 3	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired HRSG & a natural gas fired duct burner. Limits for this process are for turbines and duct burners.	GOOD COMBUSTION PRACTICES AND EFFICIENT PROCESS DESIGN	25.9	PPM @ 15% O2	3-hr avg	0			25.9	PPM @ 15% O2	
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CO OXIDATION CATALYST	0.01	LB/MMBTU	3 HR ROLLING AVERAGE	2	PPMVD@15%O2	3 HR ROLLING AVERAGE	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Oxidation catalyst and use of only natural gas a clean burning fuel	2	PPMVD	3-HR ROLLING AVE BASED ON 1-HR BLOCK AVE	14	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		

Table D-A-3
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	CO Oxidation catalyst and good combustion practices and use of natural gas only as a clean burning fuel	2	PPMVD@15%O2	3-HR ROLLING AVERAGE BASED ON 1-HR BLOCK	11.1	lb/hr	AVEARAGE OF THREE ONE HOUR TESTS	0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Oxidation catalyst and use of natural gas a clean burning fuel	1.5	PPMVD@15%O2	3-HR ROLLING AVE BASED ON 1-HR BLOCK	10.5	lb/hr	3-HR ROLLING AVE BASED ON 1-HR BLOCK	0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	OXIDATION CATALYST	2	PPMVD@15%02		0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, with duct burners	Natural Gas	51560	MMSCF/rolling 12-MO	Two Siemens 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	oxidation catalyst	13	lb/hr		72.2	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, with duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	oxidation catalyst	12.7	lb/hr		183.9	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners On	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Good combustion practices burning natural gas	45.9	lb/hr		278	T/YR	PER ROLLING 12 MONTHS	8	PPM	PPMVD AT 15% O2 ON 24-H BLOCK AVERAGE
OK-0115	LAWTON ENERGY COGEN FACILITY	12/12/2006	COMBUSTION TURBINE AND DUCT BURNER					GOOD COMBUSTION PRACTICES	16.38	PPMVD	@15% O2	0			0		
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					COMBUSTION CONTROL	25	PPMVD	@15% O2	0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	GOOD COMBUSTION	8	PPMV	1-HR AVG	51.32	PPMV	3-HR AVG	0		
OR-0041	WANAPA ENERGY CENTER	8/8/2005	COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	2384.1	MMBTU/H	GE 7241FA TURBINE AND DUCT BURNER. COMBUSTION TURBINE - 1,778.5 MMBTU/HR DUCT BURNER - 605.6 MMBTU/HR	OXIDATION CATALYST.	2	PPMDV @ 15% O2	3 HOURS	0			2	PPM @ 15% O2	
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Mitsubishi M501-GAC combustion turbine, combined cycle configuration with duct burner.	natural gs	2988	MMBtu/hr	or ULSD; Duct burner 499 MMBtu/hr, natural gas	Oxidation catalyst; Limit the time in startup or shutdown.	3.3	PPMDV AT 15% O2	3-HR ROLLING AVERAGE ON NG	9	PPMDV AT 15% O2	3-HR ROLLING AVERAGE ON ULSD	0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Oxidation Catalyst	2	PPMVD	@15% O2	15.3	lb/hr	468 MW POWERBLOCK	2	PPMVD	@15% O2
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.	CO Catalyst	2	PPMDV		109.3	T/YR	EACH UNIT	0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.	CO catalyst	2	PPMVD @ 15% OXYGEN	WITH OR WITHOUT DUCT BURNER	267.32	TPY 12-MONTH ROLLING	INCLUDING STARTUP AND SHUTDOWN	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst	CO Catalyst	211.92	TPY	12-MONTH ROLLING TOTAL	0			0		
TX-0497	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	COGENERATION TRAIN 2 AND 3 (TURBINE AND DUCT BURNER EMISSIONS)	NATURAL GAS	35	MW	GREEN POWER ONE WILL CONSIST OF TWO NOMINALLY RATED 35 MW GAS FIRED TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS, EQUIPPED WITH 312 MMBTU/HR DUCT BURNERS. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NATURAL GAS. THE DUCT BURNERS WILL BURN NATURAL GAS, COMPLEX GAS OR MIXTURES OF NATURAL GAS AND COMPLEX GAS. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROXIMATELY HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE EMISSIONS ARE PER TRAIN.	BP AMOCO PROPOSES PROPER COMBUSTION CONTROL AS BACT FOR CO AND VOC EMISSIONS FROM THE TURBINES AND DUCT BURNERS. CO EMISSIONS FROM EACH TURBINE WILL NOT EXCEED 15 PPMVD AT 85% TO 100% OF BASE LOAD. CO EMISSIONS FROM EACH TU	66.81	lb/hr		373.51	T/YR		0		
TX-0502	NACOGDOCHES POWER STERNE GENERATING FACILITY	6/5/2006	WESTINGHOUSE/ SIEMENS MODEL SW501F GAS TURBINE W/ 416.5 MMBTU DUCT BURNERS	NATURAL GAS	190	MW		STEAG POWER LLC REPRESENTS GOOD COMBUSTION PRACTICES FOR THE CONTROL OF CO EMISSIONS FROM THE COMBUSTION TURBINES AND HRSG DUCT BURNERS. COMBINED CO WILL BE 20.2 PPMVD CORRECTED TO 15% O2.	109.4	lb/hr		1080	T/YR		0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						4480	lb/hr		5256	T/YR		0		
TX-0546	PATTILLO BRANCH POWER PLANT	6/17/2009	ELECTRICITY GENERATION	NATURAL GAS	350	MW	EACH TURBINE/HRSG WILL BE DESIGNED TO OUTPUT 350 MW. TURBINES BEING CONSIDERED FOR THE PROJECT ARE GE 7FA, GE 7FB, AND SIEMENS SGT6-5000F.	OXIDATION CATALYST	2	PPMVD	@ 15% O2, 3-HR ROLLING AVG	0			0		

Table D-A-3
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
TX-0547	NATURAL GAS-FIRED POWER GENERATION FACILITY	6/22/2009	ELECTRICITY GENERATION	NATURAL GAS	250	MW	LAMAR POWER PARTNERS PROPOSES TO CONSTRUCT A NATURAL GAS-FIRED COMBINED-CYCLE POWER BLOCK TO BE BUILT AT THE EXISTING SITE IN LAMAR COUNTY, TEXAS. THE NEW POWER BLOCK WILL BE CAPABLE OF PRODUCING EITHER 620 OR 910 MEGAWATTS OF ELECTRICITY, DEPENDING UPON WHICH COMBUSTION TURBINE MODEL OPTION IS CHOSEN. THE PROPOSED PROJECT WOULD INCLUDE TWO COMBUSTION TURBINES (EITHER 170 MW GENERAL ELECTRIC 7FAS OR 250 MW MITSUBISHI 501GS), TWO HEAT RECOVERY STEAM GENERATORS WITH DUCT BURNERS AND ONE STEAM TURBINE. THE GE7FAS WOULD BE CAPABLE OF PRODUCING 620 MW OF ELECTRICITY IN COMBINED CYCLE MODE, WHILE THE M501GS WOULD PRODUCE 910 MW IN COMBINED CYCLE MODE.	GOOD COMBUSTION PRATICES	15	PPMVD	@ 15% O2, 24-HR ROLLING AVG	0			0		
TX-0548	MADISON BELL ENERGY CENTER	8/18/2009	ELECTRICITY GENERATION	NATURAL GAS	275	MW	FOUR GE PG7121(EA) COMBINE CYCLE TURBINES FIRING NATURAL GAS WILL DIRECTLY GENERATE 75 MW; EACH HAS A 165 MMBTU/HR DUCT BURNER AND A HEAT RECOVERY STEAM GENERATOR. TWO HRSGÂ¿S WILL TURN ONE 125 MW STEAM TURBINE AND THE OTHER TWO WILL TURN ANOTHER 125 MW STEAM TURBINE. THE TURBINE MAY OPERATE WITHOUT THE DUCT BURNER.	GOOD COMBUSTION PRACTICES	17.5	PPMVD	@ 15% O2, 1-HR ROLLING AVG	0			0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	good combustion practices with an oxidation catalyst	2	PPMVD AT 15% O2	THREE-HOUR ROLLING	0			0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	Good combustion practices and oxidation catalyst	4	PPMVD	ROLLING 3-HR AT 15% OXYGEN /LOAD >= 60%	6	PPMVD	ROLLING 3-HR AT 15% OXYGEN /LOAD < 60%	0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	Good combustion	4	PPMVD	@ 15% O2 ON A 24-HR ROLLING AVG	0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	good combustion	4	PPMVD	@15% O2, 24-HR ROLLING AVG	0			0		
*TX-0641	PINECREST ENERGY CENTER	11/12/2013	combined cycle turbine	natural gas	700	MW	The generating equipment consists of two natural gas-fired combustion turbines (CTs), each exhausting to a fired heat recovery steam generator (HRSG) to produce steam to drive a shared steam turbine generator. The steam turbine is rated at 271 MW of electric output. Three models of combustion turbines are being considered for this site: the General Electric 7FA.05, the Siemens SGT6-5000F(4), and the Siemens SGT6-5000F(5). The final selection of the combustion turbine will not be made until after the permit is issued. Plant output will range between 637 and 735 MW, depending on the model turbine selected. Duct Burners are rated at 750 MMBtu/hr each.	oxidation catalyst	2	PPMVD	3-HR ROLL AVG, 15% OXYGEN, 80-100% LOAD	4	PPMVD	3-HR ROLL AVG, 15% OXYGEN, 60-80% LOAD	0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Oxidation catalyst	2	PPMVD	CORRECTED TO 15% O2, ROLLING 3 HR AVE	0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.	oxidation catalyst	4	PPMVD	@15% O2, 3 HOUR ROLLING AVERAGE	0			0		
*TX-0687	WEST PLANT AND EAST PLANT CENTRAL HEAT AND POWER	10/13/2014	Two Combustion Turbine-Generators	Natural Gas	13	MW	Combined Cycle	Good combustion practices	50	PPM	15% O2, 24HR ROLLING AVG.	0			0		
*TX-0689	CEDAR BAYOU ELECTRIC GENERATION STATION	8/29/2014	Combined cycle natural gas turbines	Natural Gas	225	MW		OC	2	PPM	ROLLING 12 MONTHS	4	PPM	1HR AVG.	0		
*TX-0698	BAYPORT COMPLEX	9/5/2013	(4) cogeneration turbines	natural gas	90	MW	(4) GE 7EA turbines providing power and process steam	DLN and Closed Loop Emissions Controls (CLEC)	15	PPMVD	@15% O2	0			0		
*TX-0708	LA PALOMA ENERGY CENTER	2/7/2013	(2) combined cycle turbines	natural gas	650	MW	The specific equipment includes two combustion turbines (CTs) connected to electric generators, producing between 183 and 232 MW of electricity, depending on ambient temperature and the selected CT. The two HRSGs use duct burners rated at 750 MMBtu/hr each to supplement the heat energy from the CTs. The steam from the two HRSGs is combined and routed to a single steam turbine driving a third electric generator with an electricity output capacity of 271 MW. Depending on the selected CT, total plant output at 59Â°F is between 637 MW and 735 MW. The applicant is considering three models of CT; one model will be selected and the permit revised to reflect the selection before construction begins. The three CT models are: (1) General Electric 7FA.04; (2) Siemens SGT6-5000F(4); or (3) Siemens SGT6-5000F(5).	oxidation catalyst	2	PPMVD	@15% O2, 3-HR ROLLING, 80-100% LOAD	4	PPMVD	@15% O2, 3-HR ROLLING, 60-80% LOAD	0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW		OC	2	PPM	1HR AVG.	0			0		
*TX-0710	VICTORIA POWER STATION	12/1/2014	combined cycle turbine	natural gas	197	MW	General Electric 7FA.04 at 197 MW nominal ouput. The duct burners will be capable of a maximum natural gas firing rate of up to 483 MMBtu/hr (HHV). The duct burners may be fired additional hours; however, total annual firing will not exceed the equivalent of 4,375 hours at maximum capacity per duct burner. The available capacity of the existing steam turbine will be increased from 125 MW in its existing 1x1x1 configuration to approximately 185 MW in the 2x2x1 configuration.	oxidation catalyst	4	PPMVD	@15% O2, 3-HR ROLLING AVERAGE	0			0		
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.	oxidation catalyst	4	PPMVD	@15% O2, 24-HR ROLLING AVERAGE	0			0		
*TX-0713	TENASKA BROWNSVILLE GENERATING STATION	4/29/2014	(2) combined cycle turbines	natural gas	274	MW	Each CTG is site-rated at 274 MW gross electric output at 62Â°F ambient temperature. At this condition, two HRSGs with full duct burner firing produce enough steam to generate an additional 336 MW, for a total of 884 MW gross, or with about 5% losses, about 840 MW net electric output. Under summertime conditions, the net output is approximately 800 MW with the 2x1 CCGT configuration or about 400 MW with the 1x1 CCGT configuration.	oxidation catalyst	2	PPMVD	@15% O2, 24-HR ROLLING AVERAGE	0			0		
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	(2) combined cycle turbines	natural gas	240	MW	The gas turbines will be one of three options: (1) Two Siemens Model F5 (SF5) CTGs each rated at nominal capability of 225 megawatts (MW). Each CTG will have a duct fired HRSG with a maximum heat input of 688 million British thermal units per hour (MMBtu/hr). (2) Two General Electric Model 7FA (GE7FA) CTGs each rated at nominal capability of 215 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 523 MMBtu/hr. (3) Two Mitsubishi Heavy Industry G Frame (MHI501G) CTGs each rated at a nominal electric output of 263 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 686 MMBtu/hr.	oxidation catalyst	4	PPMVD	@15% O2, ONE HOUR	2	PPMVD	@15% O2, ROLLING 12-MONTH	0		

Table D-A-3
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0727	CEDAR BAYOU ELECTRIC GENERATING STATION	3/31/2015	Combined cycle turbines	Natural Gas	187	MW/turbine		Oxidation catalysts	15	PPMVD	15%O2	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	SCR and oxidation catalyst	4	PPMVD @ 15% O2	3-HR AVERAGE	0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner	Oxidation catalyst	2	PPM	ROLLING 24-HR AVERAGE	0			0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	Oxidation Catalyst	2	PPM	ROLLING 24-HR AVERAGE	0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	2.4	PPMVD	ONE HR AVERAGE (WITH DUCT BURNER FIRING)				0		
*VA-0322	GREEN ENERGY PARTNERS/ STONEWALL, LLC	4/30/2013	Large combustion turbines (>25MW) CCT1 and CCT2	Natural Gas	2.23	MMBTU/hr	Throughput and Units above are for the GEF7.05. Siemens SGTF-5000F5: Throughput: 2.260 MMBTU/hr	Catalytic Oxidizer	0			0			0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Oxidation catalyst; good combustion practices.	1.5	PPMVD	3 H AVG/WITHOUT DUCT BURNING	0			0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/1/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LEAN PRE-MIX CT BURNER & OXIDATION CATALYST	2	PPMDV	3-HR @ 15%O2	0			0	PPM@ 15 % 02	UNITS NOT AVAILABLE *SEE NOTES
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Combined Cycle Turbine/Duct Burner	Natural Gas	2419.61	mmBtu/Hr	This entry is for both of two identical units at the facility. Nominal 197 mW General Electric Frame 7FA.04 Turbine w/ Duct Burner - throughput denotes aggregate heat input of turbine and duct burner (HHV).	Oxidation Catalyst + Combustion Controls	9.2	lb/hr		0			2	PPM	@ 15% O2
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		Oxidation Catalyst	4	PPMV AT 15% O2	1-HOUR	3.7	lb/hr	30-DAY ROLLING AVERAGE	32	T/YR	
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Oxidation Catalyst	1.5	ppmvd @ 15% O2	1-hour average; Duct Burners On	7.7	lb/hr	1-hr average; Duct Burners On			
	Catoctin Power LLC		Combustion Turbine	Natural Gas	170	MW		DLN combustion design; oxidation catalyst	3	ppmvd @ 15% O2	3 hr average; Duct Burners On						
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Oxidation Catalyst	8	lb/hr	1-hr average; Duct Burners On	0.0045	lb/MMBtu	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		SCR/Low NOx Burners	2	ppmvd @ 15% O2	1-hr average; Duct Burners On	0.025	lb/MW-hr	1-hr average; Duct Burners On			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		Oxidation Catalyst	2	ppmvd @ 15% O2	1-hr average	11.3	lb/hr	1-hr average			
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW		Oxidation Catalyst and GCP	2	ppmvd @ 15% O2	1-hr average						
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW		Oxidation Catalyst and GCP	10	ppmvd @ 15% O2	1-hr average						
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			5	ppmvd @ 15% O2		8	lb/hr				
	PacifiCorp Energy		Block 1 CT	Natural Gas					3	ppmvd @ 15% O2	3-hour	14.1	lb/hr				
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			3	ppmvd @ 15% O2	3-hour	14.1	lb/hr				
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			2	ppmvd @ 15% O2	1-hr average						
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2,038.60	MMBtu/hr			2	ppmvd @ 15% O2	1-hr average						
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			3	ppmvd @ 15% O2	3-hr average						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			2	ppmvd @ 15% O2	1-hr average						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			3.6	ppmvd @ 15% O2	1-hr average						
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,807	MMBtu/hr			2	ppmvd @ 15% O2							
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,307	MMBtu/hr			2	ppmvd @ 15% O2							
	PA STATE UNIV/UNIV PARK CAMPUS		COMBINED HEAT AND POWER DUAL-FIRED COMBUSTION TURBINE	Natural Gas	86.29	MMBtu/hr			1.3	ppmvd @ 15% O2							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			11.22	lb/hr		10.6	lb/hr				
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			2	ppmvd @ 15% O2	1-hr average						
	Effingham County Power		Combustion Turbine	Natural Gas	180	MW			2	ppmvd @ 15% O2	3-hr average						
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			3	ppmvd @ 15% O3	24-hr average	0.0056	lb/MMBtu				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			2	ppm @15% O2		15.9	lb/hr				
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			4	ppm @15% O2	>32 °F						
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			10	ppm @15% O2	<32 °F						
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			2	ppm @15% O2	1-hr rolling						
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2266	MMBtu/hr			2	ppm @15% O2		0.0045	lb/MMBtu				
	York Energy Center Block 1				1574	MMBtu/hr			6	ppmvd	3 hour average, rolling by 1-hour						
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	combustion turbines with duct burners		2	ppmvd @ 15% O2	1-hour average	lb/hr					

Table D-A-3
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	Liberty Electric Power, LLC				1954	MMBtu/hr	Without DB		9	ppmvd @ 15% O2							
	Liberty Electric Power, LLC				1954	MMBtu/hr	With DB		20	ppmvd @ 15% O2							

Table D-A-4

Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)

Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/o Duct Firing	Natural Gas	2969	MMBtu/hr	Throughput is for turbine only	Oxidation Catalyst	0.9	PPMVD @15% O2	1 HOUR BLOCK	0			0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas.	Clean burners that prevent CO formation	4.3	PPMVD@15% O2	3-HR AVERAGE, NATURAL GAS	10	PPMVD@15% O2	3-HR AVERAGE, ULSD	0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	2-on-1 combined cycle unit (GE 7HA)	Natural gas	4000	MMBtu/hr	Two nominal 430 MW combustion turbines, coupled to a steam turbine generator	Clean burning fuel with lean pre-mix turbines	4.3	PPMVD@15% O2	AT LOADS > 90%	7.2	PPMVD@15% O2	FOR LOADS < 90%	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGCTGHRSG (2 Combined Cycle	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the	Oxidation catalyst technology and good combustion practices.	24.7	LB/H	24-H ROLLING AVG	3537	LB/H	OPERATING HR. DURING	0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH	12/5/2016	FGCTGHRSG (2 Combined cycle	Natural gas	554	MMBTU/H, each	Two combined cycle natural gas fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG).	Oxidation catalyst technology and good combustion practices.	4	PPM	EACH EU; 24-H ROLL AVG	5.31	LB/H	EACH EU; 24-H ROLL AVG	0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH	12/5/2016	FGCTGHRSG--Startup/Shutdown (2	Natural gas	554	MMBTU/H; EACH	Two combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG).	Oxidation catalyst technology and good combustion practices.	247.3	LB/H	OPERATING HOUR DURING	551.3	LB/H	OPERATING HOUR DURING	0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Combined cycle CTG with	Natural gas	1934.7	MMBTU/H	A 1,934.7 MMBTU/H natural gas fired heavy frame industrial combustion turbine. The turbine operates in combined-cycle with an unfired heat recovery steam generator (HRSG).	Oxidation catalyst technology and good combustion practices.	4	PPM	24-H ROLL AVG.,	17.4	LB/H	24-H ROLL AVG.,	0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Startup/Shutdown)	Natural gas	1934.7	MMBTU/H	This emission unit is being entered as a separate process to account for the emission limits associated with startup/shutdown events, which could not be included within the previous	Oxidation catalyst technology and good combustion practices.	1580	POUNDS	POUNDS PER EVENT	0			0		
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3--Startup/Shutdown	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (C.T.) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx	Oxidation catalyst technology and good combustion practices.	1164	LB/H	EACH CT/HRSG TRAIN;	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG).	Oxidation catalyst technology and good combustion practices.	0.0045	LB/MMBTU	EACH UNIT; 24-H ROLL AVG;	17.59	LB/H	EACH UNIT; 24-H ROLL AVG;	0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1	Natural gas	0		This section is the startup and shutdown emission limits for FGCTGHRSG.	Oxidation catalyst technology and good combustion practices.	791.5	LB/H	EACH UNIT; OPERATING	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine	Natural Gas	8040	H/YR	NEW 633 MEGAWATT (MW) GROSS FACILITY CONSISTING OF 1. ONE GENERAL ELECTRIC (GE) 7HA.02 CCCT NOMINALLY RATED AT 380 MW	OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	2	PPMVD@15% O2	3 H ROLLING AV BASED ON ONE	15.3	LB/H	AV OF THREE ONE H STACK	0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE) Simple cycle operations limited to 2,500 hr/yr.	OXIDATION CATALYST	4	PPM	HOURLY	2	PPM	ANNUAL AVERAGE	0		
TX-0789	DECORDOVA STEAM ELECTRIC STATION	3/8/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE). Simple cycle operations limited to 2,500 hr/yr.	OXIDATION CATALYST	4	PPM		0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Refrigeration Compression	natural gas	10	M TONNES/YR	Four GE Frame 7E gas turbines for refrigeration and compression at the site	Dry low NOx burners and good combustion practices	25	PPM	ROLLING 3-HR AVERAGE	0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Simple Cycle Electrical	natural gas	34	MW	Nine GE PGT25+G4 gas turbines for electrical generation at the site at 34 MW/turbine	OXIDATION CATALYST	9	PPM	ROLLING 3-HR AVERAGE	0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	Combined Cycle Turbine	NATURAL GAS	2635	MMBTU/HR/UNIT	Two Mitsubishi M501GAC turbines (without fast start)	OXIDATION CATALYST	2	PPMVD	15% O2 3 HOUR AVERAGE	0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	COMBINED CYCLE TURBINE	NATURAL GAS	0		9 HOURS STARTUP, 1 HOUR SHUTDOWN	minimizing duration of startup / shutdown events, engaging the pollution control	8000	LB/H		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	OXIDATION CATALYST SYSTEM	2	PPMVD	@15% O2, 1-HR AVG (NO DUCT BURNING)	7.65	lb/hr	1-HR AVG (NO DUCT BURNING)	0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	180	MW		OXIDATION CATALYST SYSTEM	1.5	PPMVD	@15% O2, 1-HR AVG	6.27	lb/hr	1-HR AVG	0		
CA-1195	ELK HILLS POWER LLC	1/12/2006	COMBUSTION TURBINE GENERATOR, 2 units (Normal Operation)	NATURAL GAS	166	MW	Each CTG system will generate 166 MW under design ambient conditions with steam power augmentation from the duct burners, and 153 MW without steam augmentation.	SCR OR SCONOX	4	PPMVD	@15% O2, 1-HR AVG	12.5	lb/hr	1-HR AVG	0		
CA-1209	HIGH DESERT POWER PROJECT	3/11/2010	COMBUSTION TURBINE GENERATORS (NORMAL OPERATION)	NATURAL GAS	190	MW	THREE (3) COMBUSTION TURBINE GENERATORS AT 190 MW EACH AND EQUIPPED WITH A 160 MMBTU/HR DUCT BURNER AND HRSG	OXIDATION CATALYST SYSTEM	4	PPMVD	@15% O2, 24-HR AVG	17.53	lb/hr	24-HR AVG	0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.	CATALYTIC OXIDATION SYSTEM	3	PPMVD	@15% O2, 3-HR ROLLING AVG	17.9	lb/hr	3-HR ROLLING AVG	0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	OXIDATION CATALYST SYSTEM	1.5	PPMVD	@15% O2, 1-HR AVG (NO DUCT BURNING)	2	PPMVD	@15% O2, 1-HR AVG (W/ DUCT BURNING)	0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	USE GOOD COMBUSTION CONTROL PRACTICES AND CATALISTIC OXIDATION.	3	PPM @ 15% O2		0.044	LB/MMBTU	MONTHLY AV	3	PPM @ 15 O2	
*CO-0073	PUEBLO AIRPORT GENERATING STATION	7/22/2010	Four combined cycle combution turbines	natural gas	373	mmbtu/hr	Three GE, LMS6000 PF, natural gas-fired, combined cycle CTG, rated at 373 MMBtu per hour each, based on HHV and one (1) HRSG each with no Duct Burners	Good combustion control and catalytic oxidation	4	PPMVD AT 15% O2	1-HR AVE	3.3	lb/hr	30-DAY ROLLING AVE	0		
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	THROUGHPUT IS FOR TURBINE ONLY WHEN FIRING NATURAL GAS TURBINE: 2136 MMBTU/HR (2.095 MMCF/HR) DUCT BURNER: 445 MMBTU/HR (0.436 MMCF/HR) EMISSION RATES ARE FOR EACH COMBUSTION TURBINE FIRING NATURAL GAS, NOT COMBINED.	CO CATLYST	4.3	lb/hr	W/OUT DUCT BURNER	8.4	lb/hr	W/DUCT BURNER	0.9	PPMVD @ 15 % O2	1 HR-BLOCK (W/OUT DUCT BURNER)
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.	Oxidation Catalyst System	19.54	lb/hr	1 HOUR AVERAGE	0.032	LB/MMBTU	1 HOUR AVERAGE	0		
FL-0265	HINES POWER BLOCK 4	6/8/2005	COMBINED CYCLE TURBINE	NATURAL GAS	530	MW		GOOD COMBUSTION	8	PPM	NATURAL GAS	12	PPM	OIL	8	PPM @ 15% O2	
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	COMBINED CYCLE COMBUSTION TURBINE SYSTEM (4-ON-1)	NATURAL GAS	1972	MMBTU/H	1876 MMBTU/HR WHEN FIRING DISTILLATE FUEL OIL. THE SYSTEM NOMINAL CAPACITY 1280 MW. EACH UNIT NOMINAL CAPACITY 215 MW (ISO) WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATOR.	GOOD COMBUSTION	8	PPMVD	24-HR BLOCK AVERAGE CEMS	0			0		

Table D-A-4

Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)

Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	COMBINED CYCLE COMBUSTION GAS TURBINES - 6 UNITS	NATURAL GAS	2333	MMBTU/H	2117 MMBTU/HR FUEL OIL. EACH COMBINED CYCLE UNIT SYSTEM (TWO ‘‘3-ON-1‘‘) WILL CONSIST OF: THREE NOMINAL 250 MEGAWATT MODEL 501G GAS TURBINE-ELECTRICAL GENERATOR SETS WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSGÃ¿S) WITH SCR REACTORS; ONE NOMINAL 428 MMBTU/HOUR (LHV) GAS-FIRED DUCT BURNER LOCATED WITHIN EACH OF THE THREE HRSGÃ¿S; THREE 149 FEET EXHAUST STACKS; ONE 26 CELL MECHANICAL DRAFT COOLING TOWER; AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.		8	PPMVD @15%O2	24-HR	0			0		
FL-0303	FPL WEST COUNTY ENERGY CENTER UNIT 3	7/30/2008	THREE NOMINAL 250 MW CTG (EACH) WITH SUPPLEMENTARY-FIRED HRSG	NATURAL GAS	2333	MMBTU/H	FUELHEAT INPUT RATE (LHV): OIL2,117 MMBTU/H COMBINED CYCLE UNIT 3 WILL CONSIST OF: THREE NOMINAL 250 MW COMBUSTION TURBINE-ELECTRICAL GENERATORS (CTG) WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSG) WITH SELECTIVE CATALYTIC REDUCTION (SCR) REACTORS AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.	GOOD COMBUSTION	6	PPMVD (GAS)	12-MONTH	8	PPMVD (OIL)	24-HOUR	0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H		GOOD COMBUSTION PRACTICES	6	PPMVD	12-MONTH	8	PPMVD	24-HR	0		
GA-0127	PLANT MCDONOUGH COMBINED CYCLE	1/7/2008	COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	254	MW	6 TURBINES, 254 MW EACH (NOT INCLUDING STEAM RECOVERY), LIMITS ARE FOR EACH TURBINE (MITSUBISHI MODEL M501G). BACKUP FUEL FOR TWO TURBINES IS ULTRA-LOW SULFUR FUEL OIL	OXIDATION CATALYST	1.8	PPMVD @ 15% O2	3-HOUR	0			0		
GA-0138	LIVE OAKS POWER PLANT	4/8/2010	COMBINED CYCLE COMBUSTION TURBINE - ELECTRIC GENERATING PLANT	NATURAL GAS	600	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	GOOD COMBUSTION PRACTICES AND CATALYTIC OXIDATION	2	PPMVD @15%02	3 HOUR AVERAGE WO/O DUCT FIRING/CONDITIO	3.2	PPM@15%02	3 HOUR AVERAGE W/DUCT FIRING/CONDITION 2	208	T/YR	12 CONSECUTVE MONTH AVERAGE/CONDITION 2.
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.	catalytic oxidizer	2	PPM	30-DAY ROLLING AVG. @15% O2	552.4	TON/YR	12-MONTH ROLLING TOTAL	0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr		CO catalyst	2	PPM	30-DAY ROLLING AVERAGE	552.4	TON/YR	12-MONTH ROLLING TOTAL	0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		5	PPMVD @ 15% O2	HOURLY AVG EXCEPT DURING SSM OR TUNING	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1,350 MW.	OXIDATION CATALYST	2	PPMVD	3 HOURS	0			0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	17.7	lb/hr	HOURLY MAXIMUM	77.5	T/YR	ANNUAL MAXIMUM	4	PPM @ 15%O2	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	TWO COMBINED CYCLE GAS TURBINES	NATURAL GAS	2110	MMBTU/H	CTG-1 TURBINE/DUCT BURNER (EQT012) CTG-2 TURBINE/DUCT BURNER(EQT013)	PROPER OPERATING PRACTICES	143.31	lb/hr	MAX	0			10	PPMVD@15%O2	ANNUAL AVERAGE
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	TURBINES ALSO PERMITTED TO BURN NO. 2 FUEL OIL AND ULTRA LOW SULFUR DIESEL. FUEL OIL USE IS LIMITED TO 1000 HOURS PER YEAR.	OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	3	PPMVD @ 15% O2	HOURLY AVERAGE	0			3	PPMVD @ 15% O2	HOURLY AVERAGE
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	43.6	lb/hr	HOURLY MAXIMUM	0			58.4	PPMV	AT 15% O2
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		0.048	LB/MMBTU	24-HR ROLLING AVERAGE	53.6	lb/hr	24-HR ROLLING AVERAGE	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	9	PPM	EACH CTG; 24-H ROLLING AVG.	43.9	lb/hr	EACH CTG; 24-H ROLLING AVG.	0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Efficient combustion control plus catalytic oxidation system.	4	PPMV	24-H ROLL AVG DET. EACH H TURBINE OPERAT	3159	lb/hr	4-H ROLL AVG	0		
MN-0060	HIGH BRIDGE GENERATING PLANT	8/12/2005	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS ONLY	330	MEGAWATTS	EMISSIONS FOR EACH TURBINE.	GOOD COMBUSTION PRACTICES	10	PPM @ 15% O2	TURBINE W/O DUCT-BURNER	18	PPM @ 15% O2	WITH DUCT-BURNER FIRING	18	PPM @ 15% O2	
MN-0066	NORTHERN STATES POWER CO. DBA XCEL ENERGY - RIVERSIDE PLANT	5/16/2006	TURBINE, COMBINED CYCLE (2)	NATURAL GAS	1885	mmbtu/h	TWO COMBUSTION TURBINES, THROUGHPUT FOR EACH	GOOD COMBUSTION PRACTICES	10	PPMVD @ 15% O2	3-HR BLOCK	0			10	PPM @ 15% O2	
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	COMBINED CYCLE COMBUSTION TURBINE W/DUCT BURNER	NATURAL GAS	1758	MMBTU/H	COMBUSTION TURBINE PERMITTED TO USE NG & NO. 2 OIL; DUCT BURNER PERMITTED TO USE NG & NO. 2 OIL. DUCT BURNER ALSO AUTHORIZED TO COMBUST LIQUID BIOFUEL.	GOOD COMBUSTION	9	PPMVD	3-HR. AVG CTG ON NG NO DB	20	PPMVD	3-HR AVG CTG OIL NO DB	11	PPMVD	3-HR AVG CTG NG DB NG OR OIL

Table D-A-4

Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)

Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.	GOOD COMBUSTION PRACTICES AND EFFICIENT PROCESS DESIGN.	11.6	PPM @ 15% O2	3-hour average	0			11.6	PPM @ 15% O2	
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CO OXIDATION CATALYST	0.01	LB/MMBTU	3 HR ROLLING AVERAGE	2	PPMVD@15%O2	3 HR ROLLING AVERAGE	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Combined Cycle Combustion Turbine -Siemens turbine without Duct Burner	Natural gas	33691	MMCubic ft/yr	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each Siemens combustion turbine will be 2,356 MMBtu/hr(HHV)	CO Oxidation Catalyst and Good Combustion Practices and use of Natural gas as a clean burning fuel	2	PPMVD@15% O2	3-HR ROLLING AVE BASED ON 1-HR BLOCK	12	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITHOUT DUCT BURNER - GENERAL ELECTRIC	Natural Gas	33691	MMCF/YR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion turbine will be 2,312 MMBtu/hr(HHV)	CO Oxidation Catalyst and Good Combustion Practices and use of Natural gas as a clean burning fuel	2	PPMVD@15%O2	3-HR ROLLING AVE BASED ON 1-HR BLOCK	10.2	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine without Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burner.	Oxidation Catalyst and Use of Natural gas a clean burning fuel	0.9	PPMVD@15%O2	3-HR ROLLING AVE BASED ON 1-HR BLOCK	4.75	lb/hr	3-HR ROLLING AVE BASED ON 1-HR BLOCK	0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	OXIDATION CATALYST	2	PPMVD@15%02		0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	oxidation catalyst	13	lb/hr		72.2	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, without duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	oxidation catalyst	13.7	lb/hr		183.9	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners Off	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners off. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Good combustion practices burning natural gas	25.7	lb/hr		278	T/YR	PER ROLLING 12 MONTHS	6	PPM	PPMVD AT 15% O2 ON 24-H BLOCK AVERAGE
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					COMBUSTION CONTROL	25	PPMVD	@15% O2	0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	GOOD COMBUSTION	8	PPMV	1-HR AVG	51.32	PPMV	3-HR AVG	0		
OR-0041	WANAPA ENERGY CENTER	8/8/2005	COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	2384.1	MMBTU/H	GE 7241FA TURBINE AND DUCT BURNER. COMBUSTION TURBINE - 1,778.5 MMBTU/HR DUCT BURNER - 605.6 MMBTU/HR	OXIDATION CATALYST.	2	PPMDV @ 15% O2	3 HOURS	0			2	PPM @ 15% O2	
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Oxidation Catalyst	2	PPMVD	@15% O2	15.3	lb/hr	468 MW POWERBLOCK	2	PPMVD	@15% O2
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.	CO Catalyst	2	PPMDV		109.3	T/YR	EACH UNIT	0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	Combined Cycle Combustion Turbine AND DUCT BURNER (3)	Natural Gas	2538000	MMBTU/H	Three powerblocks consisting of three (3) natural gas fired F class combustion turbines coupled with three (3) heat recovery steam generators (HSRGs) equipped with natural gas fired duct burners.	Oxidation Catalyst	2	PPM	CORRECTED TO 15% OXYGEN	10.6	lb/hr	DUCT BURNERS NOT OPERATING	11.2	LB/H	DUCT BURNERS OPERATING
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.	CO catalyst	2	PPMVD @ 15% OXYGEN	WITH OR WITHOUT DUCT BURNER	267.32	TPY 12-MONTH ROLLING	INCLUDING STARTUP AND SHUTDOWN	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst	CO Catalyst	211.92	TPY	12-MONTH ROLLING TOTAL	0			0		
*PA-0298	FUTURE POWER PA/GOOD SPRINGS NGCC FACILITY	3/4/2014	Turbine, COMBINED CYCLE UNIT (Siemens 5000)	Natural Gas	2267	MMBtu/hr		CO Catalyst	3	PPMVD	@ 15% OXYGEN	17.9	lb/hr	WITH DUCT BURNER	84.8	T/YR	BASED ON A 12-MONTH ROLLING TOTAL
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						4480	lb/hr		5256	T/YR		0		
TX-0546	PATTILLO BRANCH POWER PLANT	6/17/2009	ELECTRICITY GENERATION	NATURAL GAS	350	MW	EACH TURBINE/HRSG WILL BE DESIGNED TO OUTPUT 350 MW. TURBINES BEING CONSIDERED FOR THE PROJECT ARE GE 7FA, GE 7FB, AND SIEMENS SGT6-5000F.	OXIDATION CATALYST	2	PPMVD	@ 15% O2, 3-HR ROLLING AVG	0			0		

Table D-A-4

Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
TX-0547	NATURAL GAS-FIRED POWER GENERATION FACILITY	6/22/2009	ELECTRICITY GENERATION	NATURAL GAS	250	MW	LAMAR POWER PARTNERS PROPOSES TO CONSTRUCT A NATURAL GAS-FIRED COMBINED-CYCLE POWER BLOCK TO BE BUILT AT THE EXISTING SITE IN LAMAR COUNTY, TEXAS. THE NEW POWER BLOCK WILL BE CAPABLE OF PRODUCING EITHER 620 OR 910 MEGAWATTS OF ELECTRICITY, DEPENDING UPON WHICH COMBUSTION TURBINE MODEL OPTION IS CHOSEN. THE PROPOSED PROJECT WOULD INCLUDE TWO COMBUSTION TURBINES (EITHER 170 MW GENERAL ELECTRIC 7FAS OR 250 MW MITSUBISHI 501GS), TWO HEAT RECOVERY STEAM GENERATORS WITH DUCT BURNERS AND ONE STEAM TURBINE. THE GE7FAS WOULD BE CAPABLE OF PRODUCING 620 MW OF ELECTRICITY IN COMBINED CYCLE MODE, WHILE THE M501GS WOULD PRODUCE 910 MW IN COMBINED CYCLE MODE.	GOOD COMBUSTION PRATICES	15	PPMVD	@ 15% O2, 24-HR ROLLING AVG	0			0		
TX-0548	MADISON BELL ENERGY CENTER	8/18/2009	ELECTRICITY GENERATION	NATURAL GAS	275	MW	FOUR GE PG7121(EA) COMBINE CYCLE TURBINES FIRING NATURAL GAS WILL DIRECTLY GENERATE 75 MW; EACH HAS A 165 MMBTU/HR DUCT BURNER AND A HEAT RECOVERY STEAM GENERATOR. TWO HRSGÃ¿S WILL TURN ONE 125 MW STEAM TURBINE AND THE OTHER TWO WILL TURN ANOTHER 125 MW STEAM TURBINE. THE TURBINE MAY OPERATE WITHOUT THE DUCT BURNER.	GOOD COMBUSTION PRACTICES	17.5	PPMVD	@ 15% O2, 1-HR ROLLING AVG	0			0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	good combustion practices with an oxidation catalyst	2	PPMVD AT 15% O2	THREE-HOUR ROLLING	0			0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	Good combustion practices and oxidation catalyst	4	PPMVD	ROLLING 3-HR AT 15% OXYGEN /LOAD >= 60%	6	PPMVD	ROLLING 3-HR AT 15% OXYGEN /LOAD < 60%	0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	Good combustion	4	PPMVD	@ 15% O2 ON A 24-HR ROLLING AVG	0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	good combustion	4	PPMVD	@15% O2, 24-HR ROLLING AVG	0			0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.	good combustion	4	PPMVD	@15% O2, 24-HR ROLLING AVG	0			0		
*TX-0641	PINECREST ENERGY CENTER	11/12/2013	combined cycle turbine	natural gas	700	MW	The generating equipment consists of two natural gas-fired combustion turbines (CTs), each exhausting to a fired heat recovery steam generator (HRSG) to produce steam to drive a shared steam turbine generator. The steam turbine is rated at 271 MW of electric output. Three models of combustion turbines are being considered for this site: the General Electric 7FA.05, the Siemens SGT6-5000F(4), and the Siemens SGT6-5000F(5). The final selection of the combustion turbine will not be made until after the permit is issued. Plant output will range between 637 and 735 MW, depending on the model turbine selected. Duct Burners are rated at 750 MMBtu/hr each.	oxidation catalyst	2	PPMVD	3-HR ROLL AVG, 15% OXYGEN, 80-100% LOAD	4	PPMVD	3-HR ROLL AVG, 15% OXYGEN, 60-80% LOAD	0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Oxidation catalyst	2	PPMVD	CORRECTED TO 15% O2, ROLLING 3 HR AVE	0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.	oxidation catalyst	4	PPMVD	@15% O2, 3 HOUR ROLLING AVERAGE	0			0		
*TX-0687	WEST PLANT AND EAST PLANT CENTRAL HEAT AND POWER	10/13/2014	Two Combustion Turbine-Generators	Natural Gas	13	MW	Combined Cycle	Good combustion practices	50	PPM	15% O2, 24HR ROLLING AVG.	0			0		
*TX-0689	CEDAR BAYOU ELECTRIC GENERATION STATION	8/29/2014	Combined cycle natural gas turbines	Natural Gas	225	MW		OC	2	PPM	ROLLING 12 MONTHS	4	PPM	1HR AVG.	0		
*TX-0698	BAYPORT COMPLEX	9/5/2013	(4) cogeneration turbines	natural gas	90	MW	(4) GE 7EA turbines providing power and process steam	DLN and Closed Loop Emissions Controls (CLEC)	15	PPMVD	@15% O2	0			0		
*TX-0708	LA PALOMA ENERGY CENTER	2/7/2013	(2) combined cycle turbines	natural gas	650	MW	The specific equipment includes two combustion turbines (CTs) connected to electric generators, producing between 183 and 232 MW of electricity, depending on ambient temperature and the selected CT. The two HRSGs use duct burners rated at 750 MMBtu/hr each to supplement the heat energy from the CTs. The steam from the two HRSGs is combined and routed to a single steam turbine driving a third electric generator with an electricity output capacity of 271 MW. Depending on the selected CT, total plant output at 59Â°F is between 637 MW and 735 MW. The applicant is considering three models of CT; one model will be selected and the permit revised to reflect the selection before construction begins. The three CT models are: (1) General Electric 7FA.04; (2) Siemens SGT6-5000F(4); or (3) Siemens SGT6-5000F(5).	oxidation catalyst	2	PPMVD	@15% O2, 3-HR ROLLING, 80-100% LOAD	4	PPMVD	@15% O2, 3-HR ROLLING, 60-80% LOAD	0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW		OC	2	PPM	1HR AVG.	0			0		
*TX-0710	VICTORIA POWER STATION	12/1/2014	combined cycle turbine	natural gas	197	MW	General Electric 7FA.04 at 197 MW nominal ouput. The duct burners will be capable of a maximum natural gas firing rate of up to 483 MMBtu/hr (HHV). The duct burners may be fired additional hours; however, total annual firing will not exceed the equivalent of 4,375 hours at maximum capacity per duct burner. The available capacity of the existing steam turbine will be increased from 125 MW in its existing 1x1x1 configuration to approximately 185 MW in the 2x2x1 configuration.	oxidation catalyst	4	PPMVD	@15% O2, 3-HR ROLLING AVERAGE	0			0		
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.	oxidation catalyst	4	PPMVD	@15% O2, 24-HR ROLLING AVERAGE	0			0		
*TX-0713	TENASKA BROWNSVILLE GENERATING STATION	4/29/2014	(2) combined cycle turbines	natural gas	274	MW	Each CTG is site-rated at 274 MW gross electric output at 62Â°F ambient temperature. At this condition, two HRSGs with full duct burner firing produce enough steam to generate an additional 336 MW, for a total of 884 MW gross, or with about 5% losses, about 840 MW net electric output. Under summertime conditions, the net output is approximately 800 MW with the 2x1 CCGT configuration or about 400 MW with the 1x1 CCGT configuration.	oxidation catalyst	2	PPMVD	@15% O2, 24-HR ROLLING AVERAGE	0			0		

Table D-A-4
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	(2) combined cycle turbines	natural gas	240	MW	The gas turbines will be one of three options: (1) Two Siemens Model F5 (SF5) CTGs each rated at nominal capability of 225 megawatts (MW). Each CTG will have a duct fired HRSG with a maximum heat input of 688 million British thermal units per hour (MMBtu/hr). (2) Two General Electric Model 7FA (GE7FA) CTGs each rated at nominal capability of 215 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 523 MMBtu/hr. (3) Two Mitsubishi Heavy Industry G Frame (MHI501G) CTGs each rated at a nominal electric output of 263 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 686 MMBtu/hr.	oxidation catalyst	4	PPMVD	@15% O2, ONE HOUR	2	PPMVD	@15% O2, ROLLING 12-MONTH	0		
*TX-0727	CEDAR BAYOU ELECTRIC GENERATING STATION	3/31/2015	Combined cycle turbines	Natural Gas	187	MW/turbine		Oxidation catalysts	15	PPMVD	15%O2	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	SCR and oxidation catalyst	4	PPMVD @ 15% O2	3-HR AVERAGE	0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner	Oxidation catalyst	2	PPM	ROLLING 24-HR AVERAGE	0			0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	Oxidation Catalyst	2	PPM	ROLLING 24-HR AVERAGE	0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	1.5	PPMVD @ 15% O2	ONE HR AVERAGE (W/O DUCT BURNER FIRING)	2.4	PPMVD	ONE HR AVERAGE (WITH DUCT BURNER FIRING)	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Oxidation catalyst; good combustion practices.	1.5	PPMVD @ 15% O2	3 H AVG/WITHOUT DUCT BURNING	0			0		
*VA-0322	GREEN ENERGY PARTNERS/ STONEWALL, LLC	4/30/2013	Large combustion turbines (>25MW) CCT1 and CCT2	Natural Gas	2.23	MMBTU/hr	Throughput and Units above are for the GEF7.05. Siemens SGTF-5000F5: Throughput: 2.260 MMBTU/hr	Catalytic Oxidizer	0			0			0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LEAN PRE-MIX CT BURNER & OXIDATION CATALYST	2	PPMDV	3-HR @ 15%O2	0			0	PPM@ 15 % 02	UNITS NOT AVAILABLE *SEE NOTES
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		Oxidation Catalyst	4	PPMV AT 15% O2	1-HOUR	3.7	lb/hr	30-DAY ROLLING AVERAGE	32	T/YR	
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Oxidation Catalyst	1.5	ppmvd @ 15% O2	3-hour block average; Duct Burners Off	7.15	lb/hr	1-hr average; Duct Burners Off			
	Catoctin Power LLC		Combustion Turbine	Natural Gas	170	MW		DLN combustion design; oxidation catalyst	2	ppmvd @ 15% O2	Duct Burners Off						
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Oxidation Catalyst	8	lb/hr	1-hr average; Duct Burners Off	0.0045	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Oxidation Catalyst	2	ppmvd @ 15% O2	1-hr average; Duct Burners Off	0.0027	lb/MW-hr	1-hr average; Duct Burners Off			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		Oxidation Catalyst	2	ppmvd @ 15% O2	1-hr average	11.3	lb/hr	1-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		Oxidation Catalyst	131.1	tpy	12-mo rolling						
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW		Oxidation Catalyst and GCP	2	ppmvd @ 15% O2	1-hr average						
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW		Oxidation Catalyst and GCP	2	ppmvd @ 15% O2	1-hr average						
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			5	ppmvd @ 15% O2		8	lb/hr				
	PacifiCorp Energy		Block 1 CT	Natural Gas					3	ppmvd @ 15% O2	3-hour	14.1	lb/hr				
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			3	ppmvd @ 15% O2	3-hour	14.1	lb/hr				
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			2	ppmvd @ 15% O2	1-hr average						
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2,038.60	MMBtu/hr			2	ppmvd @ 15% O2	1-hr average						
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			3	ppmvd @ 15% O2	3-hr average						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			2	ppmvd @ 15% O2	1-hr average						
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,307	MMBtu/hr			2	ppmvd @ 15% O2							
	PA STATE UNIV/UNIV PARK CAMPUS		COMBINED HEAT AND POWER DUAL-FIRED COMBUSTION TURBINE	Natural Gas	86.29	MMBtu/hr			1.3	ppmvd @ 15% O2							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			2	ppmvd @ 15% O2		11.22					
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			2	ppmvd @ 15% O2	1-hr average						
	Effingham County Power		Combustion Turbine	Natural Gas	180	MW			2	ppmvd @ 15% O2	3-hr average						
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			3	ppmvd @ 15% O3	24-hr average	0.0056	lb/MMBtu				
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2542	MMBtu/hr			2	ppm @15% O2		12.3	lb/hr				
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			2	ppm @15% O2	1-hour	10	lb/hr				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			2	ppm @15% O2		15.9	lb/hr				

Table D-A-4
Carbon Monoxide (CO) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			4	ppm @15% O2	>32 °F						
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			10	ppm @15% O2	<32 °F						
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0115	lb/MMBtu	3-hr rolling	194.79	tpy				
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			2	ppm @15% O2	1-hr rolling						
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			2	ppm @15% O2	3-hr rolling	0.0044	lb/MMBtu				
	York Energy Center Block 1				1574	MMBtu/hr			6	ppmvd	3 hour average, rolling by 1-hour						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		2	ppmvd @ 15% O2	3-hour block average; average of 3 test runs						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		2	ppmvd @ 15% O2	3-hour block average; average of 3 test runs						
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	combustion turbines with duct burners		2	ppmvd @ 15% O2	1-hour average	lb/hr					
	Liberty Electric Power, LLC				1954	MMBtu/hr	Without DB		9	ppmvd @ 15% O2							
	Liberty Electric Power, LLC				1954	MMBtu/hr	With DB		20	ppmvd @ 15% O2							

Table D-A-5
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/Duct Firing	Natural Gas	2639	MMBtu/hr	Duct burner MRC is 946 MMbtu/hr	Oxidation Catalyst	1.6	PPMVD @15% O2		0			0		
FL-0364	SEMINOLE GENERATING STATION	3/21/2018	2-on-1 natural gas combined-cycle unit	Natural gas	3514	MMBtu/hr	Two GE 7HA.02 combustion turbines, each rated at 415 MW. Total unit capacity is approximately 1,183 MW (gross) and 1,050 MW (net). Due to netting, triggered PSD only for	Oxidation catalyst	1	PPMVD@15% O2	WITHOUT DUCT BURNER FIRING	2	PPMVD@15% O2	CT + DUCT BURNER	0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1A	Natural Gas	3625	MMBTU/hr		Catalytic oxidation and good combustion practices for normal operations, and good	61.27	LB/H	HOURLY MAXIMUM	226.16	T/YR	ANNUAL MAXIMUM	0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1B	Natural Gas	3625	MMBTU/hr		Catalytic oxidation and good combustion practices during normal operations, and	61.27	LB/H	HOURLY MAXIMUM	226.16	T/YR	ANNUAL MAXIMUM	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGCTGHRSG (2 Combined Cycle	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the	Oxidation Catalyst Technology and Good Combustion Practices	4	PPM	TEST PROTOCOL	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH	12/5/2016	FGCTGHRSG (2 Combined cycle	Natural gas	554	MMBTU/H, each	Two combined cycle natural gas fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG).	Oxidation catalyst technology and good combustion practices.	4	PPM AT 15% O2	TEST PROTOCOL	0			0		
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3 (3 combined cycle	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx	An oxidation catalyst and good combustion practices.	1	PPMVD	HOURLY; EACH CT/HRSG TRAIN	48	T/YR	EACH CT/HRSG TRAIN; 12-MO	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (South Plant): A	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a	Oxidation catalyst technology and good combustion practices.	4	PPMVD	AT 15%O2; NOT INCL.	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (North Plant): A	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV).	Oxidation catalyst technology and good combustion practices.	4	PPMVD	AT 15%O2; HOURLY	0			0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Oxidation catalyst and good combustion practices	3.5	PPMVD	15% O2	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	COMBUSTION TURBINE	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Oxidation Catalyst and good combustion practices	1.4	PPMVD		214.8	T/YR	PER TURBINE-12 MO ROLLING	0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	GE 7HA.02 Turbine	Natural Gas	3496.2	mmBtu/hr	Nominal 640 mWe All emission limits steady-state and include 1000 mmBtu/hr Duct Burner in operation	Oxidation Catalyst, Good Combustion Practices	11.4	LB/HR		54.8	TONS/YEAR		2	PPM	
CA-1177	OTAY MESA ENERGY CENTER LLC	7/22/2009	Gas turbine combined cycle	Natural gas	171.7	MW			2	PPMVD @ 15% O2	1 HOUR	0			0		
CA-1178	APPLIED ENERGY LLC	3/20/2009	Gas turbine combined cycle	Natural gas	0		Source test results: 1.45 ppm NOx @ 15% O2 or 2.19 lb/hr <0.22 ppm VOC @15%02 or <0.12 lb/hr	Oxidation catalyst	2	PPMVD @ 15% O2	1 HOUR	0			0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.		2	PPMVD @ 15% O2	@15% O2, 1-HR ROLLING AVG	11	lb/hr	1-HR ROLLING AVG	0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	NATURAL GAS QUALITY GAS ONLY FUEL, GOOD COMBUSTION PRATICES AND OXIDATION CATALYST.	0.0029	LB/MMBTU		0			0		
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	THROUGHPUT IS FOR TURBINE ONLY WHEN FIRING NATURAL GAS TURBINE: 2136 MMBTU/HR (2.095 MMCF/HR) DUCT BURNER: 445 MMBTU/HR (0.436 MMCF/HR) EMISSION RATES ARE FOR EACH COMBUSTION TURBINE FIRING NATURAL GAS, NOT COMBINED.	SOME REDUCTIONS OF VOC ARE GAINED FROM CO CATALYST BUT ARE NOT GUARANTEED. EMISSION RATES DO NOT INCORPORATE THIS POTENTIAL REDUCTION.	10	lb/hr	W/OUT DUCT BURNER	10.8	lb/hr	W/DUCT BURNER	5	PPMVD @ 15% O2	1-HR BLOCK
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.	Oxidation catalyst system	6.4	lb/hr	1 HOUR AVERAGE	0			0		
FL-0263	FPL TURKEY POINT POWER PLANT	2/8/2005	170 MW COMBUSTION TURBINE, 4 UNITS	NATURAL GAS	170	MW	GENERATING CAPACITY: EACH OF THE FOUR GAS TURBINES HAS A NOMINAL GENERATING CAPACITY OF 170 MW FOR GAS FIRING (180 MW FOR OIL FIRING). EACH OF THE FOUR HEAT RECOVERY STEAM GENERATORS (HRSGS) PROVIDES STEAM TO THE SINGLE STEAM TURBINE ELECTRICAL GENERATOR, WHICH HAS A NOMINAL CAPACITY OF 470 MW. THE TOTAL NOMINAL GENERATING CAPACITY OF THE 4-ON-1 COMBINED CYCLE UNIT IS 1150 MW. FUELS: EACH GAS TURBINE WILL FIRE NATURAL GAS AS THE PRIMARY FUEL AND ULTRA LOW SULFUR (0.0015% SULFUR) DISTILLATE OIL AS A RESTRICTED ALTERNATE FUEL. EMISSIONS OF ALL POLLUTANTS INCREASE WITH THE FIRING OF OIL. THE APPLICANT REQUESTS 500 HOURS PER YEAR PER GAS TURBINE (OR EQUIVALENT) FOR OIL FIRING. MODES OF OPERATION: STANDARD NORMAL OPERATION, WITH DUCT BURNER, POWER AUGMENTATION AND PEAKING.	VOC EMISSIONS WILL BE MINIMIZED BY THE EFFICIENT COMBUSTION OF NATURAL GAS AND DISTILLATE OIL AT HIGH TEMPERATURES.	1.3	PPMVD @ 15% O2	STACK TEST (CT NORMAL) GAS	1.9	PPMVD @ 15 % O2	STACK TEST (DUCT BURNER) GAS	0		
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	COMBINED CYCLE COMBUSTION TURBINE SYSTEM (4-ON-1)	NATURAL GAS	1972	MMBTU/H	1876 MMBTU/HR WHEN FIRING DISTILLATE FUEL OIL. THE SYSTEM NOMINAL CAPACITY 1280 MW. EACH UNIT NOMINAL CAPACITY 215 MW (ISO) WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATOR.	GOOD COMBUSTION	1.2	PPMVD @ 15% O2	@ 15% O2 FOR CT ONLY - GAS	1.5	PPMVD	@ 15% O2 FOR CT AND DB - GAS	0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	COMBINED CYCLE COMBUSTION GAS TURBINES - 6 UNITS	NATURAL GAS	2333	MMBTU/H	2117 MMBTU/HR FUEL OIL. EACH COMBINED CYCLE UNIT SYSTEM (TWO ‘‘3-ON-1‘‘) WILL CONSIST OF: THREE NOMINAL 250 MEGAWATT MODEL 501G GAS TURBINE-ELECTRICAL GENERATOR SETS WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSGÃ¿S) WITH SCR REACTORS; ONE NOMINAL 428 MMBTU/HOUR (LHV) GAS-FIRED DUCT BURNER LOCATED WITHIN EACH OF THE THREE HRSGÃ¿S; THREE 149 FEET EXHAUST STACKS; ONE 26 CELL MECHANICAL DRAFT COOLING TOWER; AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.		1.5	PPMVD @ 15% O2	GAS	6	PPMVD @ 15 % O2	OIL	0		
FL-0303	FPL WEST COUNTY ENERGY CENTER UNIT 3	7/30/2008	THREE NOMINAL 250 MW CTG (EACH) WITH SUPPLEMENTARY-FIRED HRSG	NATURAL GAS	2333	MMBTU/H	FUELHEAT INPUT RATE (LHV): OIL2,117 MMBTU/H COMBINED CYCLE UNIT 3 WILL CONSIST OF: THREE NOMINAL 250 MW COMBUSTION TURBINE-ELECTRICAL GENERATORS (CTG) WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSG) WITH SELECTIVE CATALYTIC REDUCTION (SCR) REACTORS AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.		1.2	PPMVD @ 15% O2		1.5	PPMVD		0		
FL-0337	POLK POWER STATION	10/14/2012	Combine cycle power block (4 on 1)	natural gas	1160	MW	Basis for the emission standard is either NSPS Subpart KKKK or Department BACT determinations. The BACT emission standards for NOX while operating in combined cycle are more stringent than the corresponding Subpart KKKK emissions standards of 15 and 42 ppmvd @15% O2 on a 30-day rolling average for natural gas and fuel oil, respectively.	fuel Sulfur limits	1.4	PPMVD @ 15% O2		0			0		
GA-0127	PLANT MCDONOUGH COMBINED CYCLE	1/7/2008	COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	254	MW	6 TURBINES, 254 MW EACH (NOT INCLUDING STEAM RECOVERY), LIMITS ARE FOR EACH TURBINE (MITSUBISHI MODEL M501G). BACKUP FUEL FOR TWO TURBINES IS ULTRA-LOW SULFUR FUEL OIL	OXIDATION CATALYST	1.8	PPMVD @ 15% O2	3-HOUR, WITH DUCT BURNER	1	PPM @ 15% O2	3-HOUR, WITHOUT DUCT BURNER	0		

Table D-A-5
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
GA-0138	LIVE OAKS POWER PLANT	4/8/2010	COMBINED CYCLE COMBUSTION TURBINE - ELECTRIC GENERATING PLANT	NATURAL GAS	600	MW		GOOD COMBUSTION PRACTICES, CATALYTIC OXIDATION	2	PPMVD @ 15% O2	3-HOUR AVERAGE/CONDITION 2.11	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.	catalytic oxidizer	1	PPMVD @ 15% O2	AVG. OF 3 ONE HOUR TEST RUNS	71.2	TON/YR	12-MONTH ROLLING	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	COMBUSTION TURBINE, COMBINED CYCLE W/ DUCT BURNER	NATURAL GAS (ONLY)	2375.28	MMBTU/H	SIEMENS SGT6-5000F COMBUSTION TURBINE (NGCT, CCGT) FOR ELECTRICAL GENERATION, NOMINAL 269 MW AND 2.1466 MMSCF/HR	CATALYTIC OXIDATION (CATOX), DRY LOW NOX (DLN), GOOD COMBUSTION PRACTICES (GCP)	2	PPMVD @ 15% O2	3-HR ROLLING / 15% O2	11.5	PPMVD	3-HR ROLLING / 15% O2 DURING LL	0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		4	PPMVD @ 15% O2	HOURLY AVG EXCEPT DURING SSM OR TUNING	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	OXIDIZED CATALYST	1	PPMVD @ 15% O2	3 HOURS	2	PPMVD	3 HOURS	0		
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	TWO COMBINED CYCLE GAS TURBINES	NATURAL GAS	2110	MMBTU/H	CTG-1 TURBINE/DUCT BURNER (EQT012) CTG-2 TURBINE/DUCT BURNER(EQT013)	PROPER OPERATING PRACTICES	12.06	lb/hr	MAX	0			4.9	PPMVD@15%O2	ANNUAL AVERAGE
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	TURBINES ALSO PERMITTED TO BURN NO. 2 FUEL OIL AND ULTRA LOW SULFUR DIESEL. FUEL OIL USE IS LIMITED TO 1000 HOURS PER YEAR.	GOOD COMBUSTION PRACTICES	1.4	PPMVD @ 15% O2	HOURLY AVERAGE W/O DUCT BURNER	3.8	PPMVD @ 15% O2	HOURLY AVERAGE W/ DUCT BURNER	0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	0.66	lb/hr	HOURLY MAXIMUM	0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Combustion Turbine with Duct Burner	Natural Gas	2449	MMBtu/hr	two 315 MW (nominal) GE Energy 7F Series 5 Rapid Response Combined Cycle Combustion Turbines with Duct Burners and 31 MW (estimated) steam turbine generators	Oxidation catalyst	1	PPMVD @ 15% O2	1 HR AVG EXCLUDING SS/NO DUCT FIRING	1.7	PPMVD@15% O2	1 HR AVG EXCLUDING SS/DUCT FIRING	0		
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	1	PPMVD @ 15% O2	3-HOUR BLOCK AVERAGE, EXCLUDING SU/SD	3.2	lb/hr	3-HOUR BLOCK AVERAGE, EXCLUDING SU/SD	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	USE OF PIPELINE NATURAL GAS, GOOD COMBUSTION PRACTICES, AND USE OF AN OXIDATION CATALYST	1.6	PPMVD @ 15% O2	3-HOUR BLOCK AVERAGE, EXCLUDING SU/SD	6720	LB/EVENT	COLD STARTUP	0		
MI-0366	BERRIEN ENERGY, LLC	4/13/2005	3 COMBUSTION TURBINES AND DUCT BURNERS	NATURAL GAS	1584	MMBTU/H	EACH TURBINE IS EQUIPPED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG). EACH HRSG IS EQUIPPED WITH A NATURAL GAS FIRED DUCT BURNER (650 MMBTU/H). TOTAL NOMINAL PLAN GENERATING CAPACITY WITHOUT DUCT FIRING IS 800 MW. A MAX OUTPUT OF 1100 MW THROUGH SUPPLEMENTAL FIRING OF HRSGS.	CATALYTIC OXIDIZER PROVIDES SOME CONTROL FOR VOCS.	3.2	lb/hr		95.3	T/YR		0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.0018	LB/MMBTU	EACH CTG; TEST PROTOCOL	0			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	This process is permitted in a flexible group format, identified in the permit as FG-CTG/DB1-2 and is for two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system. Additionally, the HRSG is operating with a natural gas fired duct burner for supplemental firing. The throughput is 2,486 MMBTU/H for each CTG/DB.	Good combustion practices	0.004	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Efficient combustion control plus catalytic oxidation system.	0			0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	FG-CTGHRSG: 2 Combined cycle CTGs with HRSGs with duct burners	natural gas	647	MMBTU/H for each CTGHRSG	This process is identified in the permit as FGCTGHRSG; it is 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSGs) equipped with duct burners for supplemental firing (EUCTGHRSG1 & EUCTGHRSG2 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. Each CTGHRSG shall not exceed 647 MMBtu/hr on a fuel heat input basis.	Oxidation catalyst technology and good combustion practices.	4	PPMVD @ 15% O2	TEST PROTOCOL	0			0		
MN-0060	HIGH BRIDGE GENERATING PLANT	8/12/2005	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS ONLY	330	MEGAWATTS	EMISSIONS FOR EACH TURBINE.	GOOD COMBUSTION PRACTICES.	2	PPMVD @ 15% O2	W/O DUCT-BURNER	13	PPM @ 15% O2	WITH DUCT-BURNER FIRING	0		
MN-0066	NORTHERN STATES POWER CO. DBA XCEL ENERGY - RIVERSIDE PLANT	5/16/2006	TURBINE, COMBINED CYCLE (2)	NATURAL GAS	1885	mmbtu/h	TWO COMBUSTION TURBINES, THROUGHPUT FOR EACH	GOOD COMBUSTION PRACTICES	4.6	PPMVD @ 15% O2	3-HR BLOCK	0			0		

Table D-A-5
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	COMBINED CYCLE COMBUSTION TURBINE W/DUCT BURNER	NATURAL GAS	1758	MMBTU/H	COMBUSTION TURBINE PERMITTED TO USE NG & NO. 2 OIL; DUCT BURNER PERMITTED TO USE NG & NO. 2 OIL. DUCT BURNER ALSO AUTHORIZED TO COMBUST LIQUID BIOFUEL.		1.5	PPMVD @ 15% O2	CTG NG NO DB	3	PPMVD	CTG NG & DB NG OR OIL	3.5	PPMVD	CTG OIL & DB NOT OPERATE OR DB NG OR OIL
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE & DUCT BURNER, COMBINED CYCLE, NAT GAS, 3	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired HRSG & a natural gas fired duct burner. Limits for this process are for turbines and duct burners.	GOOD COMBUSTION PRACTICES AND EFFICIENT PROCESS DESIGN	5.7	PPMVD @ 15% O2		0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	1.9	PPMVD @ 15% O2	AVERAGE OF 3 TESTS-EACH 60 MIN	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Oxidation catalyst and pollution prevention (use of natural gas a clean burning fuel)	2	PPMVD @ 15% O2	AVERAGE OF THREE ONE HOUR TESTS	6.6	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	CO Oxidation Catalyst and good combustion practices and use natural gas only as a clean burning fuel	2	PPMVD @ 15% O2	AVERAGE OF THREE ONE HOUR TESTS	7.2	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Oxidation catalyst and use of natural gas a clean burning fuel	1	PPMVD@15%O2	AVERAGE OF THREE STACK TEST RUNS	4	lb/hr	AVERAGE OF THREE STACK TEST RUNS	0		
NY-0098	ATHENS GENERATING PLANT	1/19/2007	FUEL COMBUSTION (GAS)	NATURAL GAS	3100	MMBTU/H	THE FACILITY CONSISTS OF 3 WESTINGHOUSE MODEL 501G GAS COMBINED CYCLE TURBINES (245 MW BASE LOAD), HEAT RECOVERY STEAM GENERATORS, AND STEAM TURBINE GENERATORS (115 MW) WITH SELECTIVE CATYALYTIC REDUCTION (SCR) FOR NOX EMISSION CONTROL. NOX EMISSIONS FROM THE TURBINES ARE ADDITIONALLY CONTROLLED BY AMMONIUM HYDROXIDE INJECTION.	GOOD COMBUSTION CONTROL	4	PPMVD @ 15% O2	3 HOUR BLOCK AVERAGE/ STEADY STATE	16.8	lb/hr	3 HOUR BLOCK AVERAGE/ STEADY STATE	4	PPMVD @ 15% O2	3 HOUR BLOCK AVERAGE/ STEADY STATE
NY-0100	EMPIRE POWER PLANT	6/23/2005	FUEL COMBUSTION (NATURAL GAS)	NATURAL GAS	2099	MMBTU/H		OXIDATION CATALYST	1	PPMVD @ 15% O2	AS PER EPA METHOD 25A	1	PPMVD AT 15% O2	AS PER EPA METHOD 25A	0		
NY-0100	EMPIRE POWER PLANT	6/23/2005	FUEL COMBUSTION (NATURAL GAS) DUCT BURNING	NATURAL GAS	646	MMBTU/H		OXIDATION CATALYST	7	PPMVD @ 15% O2	AS PER EPA METHOD 25A	7	PPMDV AT 15 % O2	AS PER EPA METHOD 25A	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, with duct burners	Natural Gas	51560	MMSCF/rolling 12-MO	Two Siemens 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	oxidation catalyst	5.9	lb/hr		28.6	T/YR	PER ROLLING 12 MONTHS	1.9	PPM	PPMVD AT 15% O2
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, with duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	oxidation catalyst	7.3	lb/hr		56	T/YR	PER ROLLING 12 MONTHS	2	PPM	PPMVD AT 15% O2
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners On	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Using efficient combustion technology	7.3	lb/hr		44.1	T/YR	PER ROLLING 12 MONTHS	0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	GOOD COMBUSTION	0.3	PPMVD @ 15% O2	3-HR AVG @ 15% O2	5.27	lb/hr	3-HR AVG @ 15% O2	0		
OR-0041	WANAPA ENERGY CENTER	8/8/2005	COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	2384.1	MMBTU/H	GE 7241FA TURBINE AND DUCT BURNER. COMBUSTION TURBINE - 1,778.5 MMBTU/HR DUCT BURNER - 605.6 MMBTU/HR	OXIDATION CATALYST	0		SEE POLUTANT NOTE	0			0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Mitsubishi M501-GAC combustion turbine, combined cycle configuration with duct burner.	natural gs	2988	MMBtu/hr		Oxidation catalyst; Limit the time in startup or shutdown.	2	PPMVD @ 15% O2	3-HR ROLLING AVERAGE ON NG	5	PPMDV AT 15% O2	3-HR ROLLING AVERAGE ON ULSD	0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Oxidation Catalyst	1	PPMVD @ 15% O2	WITHOUT DUCT BURNER	1.5	PPMVD	WITH DUCT BURNER	0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.	CO Catalyst	1	PPMVD @ 15% O2	WITHOUT DUCT BURNER	1.5	PPMDV	WITH DUCT BURNER	33.8	T/YR	EACH UNIT
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	Combined Cycle Combustion Turbine AND DUCT BURNER (3)	Natural Gas	2538000	MMBTU/H	Three powerblocks consisting of three (3) natural gas fired F class combustion turbines coupled with three (3) heat recovery steam generators (HSRGs) equipped with natural gas fired duct burners.	Oxidation Catalyst	1	PPMVD @ 15% O2	3 lb/hr, DUCT BURN NOT OPERATING, 15% O2	3.9	PPM	10.8 LB/HR, DUCT BURN OPERATING, 15% O2	0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.	Oxidation Catalyst	1.5	PPMVD @ 15% O2	WITH OR WITHOUT DUCT BURNER	93.44	TPY 12-MONTH ROLLING	INCLUDING STARTUP AND SHUTDOWN	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		93.85	T/YR	12-MONTH ROLLING TOTAL	1.9	PPMVD @ 15% O2		0		

Table D-A-5
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*PA-0298	FUTURE POWER PA/GOOD SPRINGS NGCC FACILITY	3/4/2014	Turbine, COMBINED CYCLE UNIT (Siemens 5000)	Natural Gas	2267	MMBtu/hr		CO Catalyst	2	PPMVD @ 15% O2	@ 15% OXYGEN	7.4	lb/hr	WITH DUCT BURNER	34.1	TPY	ON A 12-MONTH ROLLING TOTAL
TX-0497	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	COGENERATION TRAIN 2 AND 3 (TURBINE AND DUCT BURNER EMISSIONS)	NATURAL GAS	35	MW	GREEN POWER ONE WILL CONSIST OF TWO NOMINALLY RATED 35 MW GAS FIRED TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS, EQUIPPED WITH 312 MMBTU/HR DUCT BURNERS. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NATURAL GAS. THE DUCT BURNERS WILL BURN NATURAL GAS, COMPLEX GAS OR MIXTURES OF NATURAL GAS AND COMPLEX GAS. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROXIMATELY HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE EMISSIONS ARE PER TRAIN.	BP AMOCO PROPOSES PROPER COMBUSTION CONTROL AS BACT FOR CO AND VOC EMISSIONS FROM THE TURBINES AND DUCT BURNERS.	6.14	lb/hr		40.88	T/YR		0		
TX-0502	NACOGDOCHES POWER STERNE GENERATING FACILITY	6/5/2006	WESTINGHOUSE/ SIEMENS MODEL SW501F GAS TURBINE W/ 416.5 MMBTU DUCT BURNERS	NATURAL GAS	190	MW		STEAG POWER LLC REPRESENTS GOOD COMBUSTION PRACTICES FOR THE CONTROL OF VOLATILE ORGANIC COMPOUND (VOC) EMISSIONS FROM THE COMBUSTION TURBINES AND DUCT FIRED HRSG. VOC EMISSIONS FROM THE COMBUSTION TURBINE WILL BE 4.3 PPMVD	13.8	lb/hr		112.8	T/YR		0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						29	lb/hr		88	T/YR		0		
TX-0546	PATTILLO BRANCH POWER PLANT	6/17/2009	ELECTRICITY GENERATION	NATURAL GAS	350	MW	EACH TURBINE/HRSG WILL BE DESIGNED TO OUTPUT 350 MW. TURBINES BEING CONSIDERED FOR THE PROJECT ARE GE 7FA, GE 7FB, AND SIEMENS SGT6-5000F.	OXIDATION CATALYST	2	PPMVD @ 15% O2	@ 15% O2, 3-HR ROLLING AVG	0			0		
TX-0547	NATURAL GAS-FIRED POWER GENERATION FACILITY	6/22/2009	ELECTRICITY GENERATION	NATURAL GAS	250	MW	LAMAR POWER PARTNERS PROPOSES TO CONSTRUCT A NATURAL GAS-FIRED COMBINED-CYCLE POWER BLOCK TO BE BUILT AT THE EXISTING SITE IN LAMAR COUNTY, TEXAS. THE NEW POWER BLOCK WILL BE CAPABLE OF PRODUCING EITHER 620 OR 910 MEGAWATTS OF ELECTRICITY, DEPENDING UPON WHICH COMBUSTION TURBINE MODEL OPTION IS CHOSEN. THE PROPOSED PROJECT WOULD INCLUDE TWO COMBUSTION TURBINES (EITHER 170 MW GENERAL ELECTRIC 7FAS OR 250 MW MITSUBISHI 501GS), TWO HEAT RECOVERY STEAM GENERATORS WITH DUCT BURNERS AND ONE STEAM TURBINE. THE GE7FAS WOULD BE CAPABLE OF PRODUCING 620 MW OF ELECTRICITY IN COMBINED CYCLE MODE, WHILE THE M501GS WOULD PRODUCE 910 MW IN COMBINED CYCLE MODE.	GOOD COMBUSTION PRACTICES	4	PPMVD @ 15% O2	@ 15% O2, 24-HR ROLLING AVG	0			0		
TX-0548	MADISON BELL ENERGY CENTER	8/18/2009	ELECTRICITY GENERATION	NATURAL GAS	275	MW	FOUR GE PG7121(EA) COMBINE CYCLE TURBINES FIRING NATURAL GAS WILL DIRECTLY GENERATE 75 MW; EACH HAS A 165 MMBTU/HR DUCT BURNER AND A HEAT RECOVERY STEAM GENERATOR. TWO HRSGÃ¿S WILL TURN ONE 125 MW STEAM TURBINE AND THE OTHER TWO WILL TURN ANOTHER 125 MW STEAM TURBINE. THE TURBINE MAY OPERATE WITHOUT THE DUCT BURNER.	GOOD COMBUSTION PRACTICES	2.5	PPMVD @ 15% O2	@ 15% O2, 1-HR ROLLING AVG	0			0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	DLN burners in combination with an oxidation catalyst	1.8	PPMVD @ 15% O2	THREE-HOUR ROLLING AVERAGE	0			0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	Natural gas, good combustion practices and oxidation catalyst	2	PPMVD @ 15% O2	3-HR AT 15% OXYGEN	0			0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	Good combustion	2	PPMVD @ 15% O2	@15% O2	0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	good combustion, use of natural gas	2	PPMVD @ 15% O2	@15% O2	0			0		
*TX-0641	PINECREST ENERGY CENTER	11/12/2013	combined cycle turbine	natural gas	700	MW	The generating equipment consists of two natural gas-fired combustion turbines (CTs), each exhausting to a fired heat recovery steam generator (HRSG) to produce steam to drive a shared steam turbine generator. The steam turbine is rated at 271 MW of electric output. Three models of combustion turbines are being considered for this site: the General Electric 7FA.05, the Siemens SGT6-5000F(4), and the Siemens SGT6-5000F(5). The final selection of the combustion turbine will not be made until after the permit is issued. Plant output will range between 637 and 735 MW, depending on the model turbine selected. Duct Burners are rated at 750 MMBtu/hr each.	oxidation catalyst	2	PPMVD @ 15% O2	INITIAL STACK TEST, 15% OXYGEN	0			0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Oxidation catalyst, good combustion practices	2	PPMVD @ 15% O2	CORRECTED TO 15% O2, ROLLING 3 HR AVE	0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.	oxidation catalyst	2	PPMVD @ 15% O2	1 HOUR BASED ON STACK TEST	0			0		
*TX-0708	LA PALOMA ENERGY CENTER	2/7/2013	(2) combined cycle turbines	natural gas	650	MW	The specific equipment includes two combustion turbines (CTs) connected to electric generators, producing between 183 and 232 MW of electricity, depending on ambient temperature and the selected CT. The two HRSGs use duct burners rated at 750 MMBtu/hr each to supplement the heat energy from the CTs. The steam from the two HRSGs is combined and routed to a single steam turbine driving a third electric generator with an electricity output capacity of 271 MW. Depending on the selected CT, total plant output at 59Â°F is between 637 MW and 735 MW. The applicant is considering three models of CT; one model will be selected and the permit revised to reflect the selection before construction begins. The three CT models are: (1) General Electric 7FA.04; (2) Siemens SGT6-5000F(4); or (3) Siemens SGT6-5000F(5).	oxidation catalyst	2	PPMVD @ 15% O2	@15% O2, 3-HR ROLLING	0			0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW			2	PPMVD @ 15% O2	1HR. AVG.	0			0		
*TX-0710	VICTORIA POWER STATION	12/1/2014	combined cycle turbine	natural gas	197	MW	General Electric 7FA.04 at 197 MW nominal ouput. The duct burners will be capable of a maximum natural gas firing rate of up to 483 MMBtu/hr (HHV). The duct burners may be fired additional hours; however, total annual firing will not exceed the equivalent of 4,375 hours at maximum capacity per duct burner. The available capacity of the existing steam turbine will be increased from 125 MW in its existing 1x1x1 configuration to approximately 185 MW in the 2x2x1 configuration.	oxidation catalyst	4	PPMVD @ 15% O2	@15% O2, 3-HR ROLLING AVERAGE	0			0		

Table D-A-5
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.	oxidation catalyst	4	PPMVD @ 15% O2	@15% O2 1-HR	0			0		
*TX-0713	TENASKA BROWNSVILLE GENERATING STATION	4/29/2014	(2) combined cycle turbines	natural gas	274	MW	Each CTG is site-rated at 274 MW gross electric output at 62Â°F ambient temperature. At this condition, two HRSGs with full duct burner firing produce enough steam to generate an additional 336 MW, for a total of 884 MW gross, or with about 5% losses, about 840 MW net electric output. Under summertime conditions, the net output is approximately 800 MW with the 2x1 CCGT configuration or about 400 MW with the 1x1 CCGT configuration.	oxidation catalyst	2	PPMVD @ 15% O2	@15% O2, 3-HR AVERAGE	0			0		
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	(2) combined cycle turbines	natural gas	240	MW	The gas turbines will be one of three options: (1) Two Siemens Model F5 (SF5) CTGs each rated at nominal capability of 225 megawatts (MW). Each CTG will have a duct fired HRSG with a maximum heat input of 688 million British thermal units per hour (MMBtu/hr). (2) Two General Electric Model 7FA (GE7FA) CTGs each rated at nominal capability of 215 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 523 MMBtu/hr. (3) Two Mitsubishi Heavy Industry G Frame (MHI501G) CTGs each rated at a nominal electric output of 263 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 686 MMBtu/hr.	oxidation catalyst	1	PPMVD @ 15% O2	@15% O2	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	SCR and oxidation catalyst	4	PPMVD @ 15% O2	3-HR AVERAGE	0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner	Oxidation catalyst	2	PPM		0			0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	oxidation catalyst	2	PPMVD @ 15% O2		0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	2.6	lb/hr	3 HR AVG. (WITHOUT DUCT BURNER FIRING)	6.1	lb/hr	3 HR. AVG. (WITH DUCT BURNER FIRING)	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Oxidation catalyst; good combustion practices.	0.7	PPMVD @ 15% O2	3 H AVG/WITHOUT DUCT BURNING	1.6	PPMVD @ 15% O2	3 H AVG/WITH	0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LEAN PRE-MIX CT BURNER & OXIDATION CATALYST	0			0			0		*SEE NOTES
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Combined Cycle Turbine/Duct Burner	Natural Gas	2419.61	mmBtu/Hr	This entry is for both of two identical units at the facility. Nominal 197 mW General Electric Frame 7FA.04 Turbine w/ Duct Burner - throughput denotes aggregate heat input of turbine and duct burner (HHV).	Oxidation Catalyst & Good Combustion Practices	5.3	lb/hr		0.0022	LB/MMBTU		2	PPM	@ 15% O2
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		Oxidation Catalyst	3	PPMVD @ 15% O2	1-HOUR	3	lb/hr	3-HOUR AVERAGE	14.7	T/YR	
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Low NOx Burners	0.003	lb/MMBtu	1-hr average; Duct Burners On	5.92	lb/hr	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low NOx Burners	5.4	lb/hr	1-hr average; Duct Burners On	0.0022	lb/MMBtu	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low NOx Burners	1.7	PPMVD @ 15% O2	1-hr average; Duct Burners On	0.016	lb/MW-hr	1-hr average; Duct Burners On			
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW		Oxidation Catalyst	2	PPMVD @ 15% O2	1-hr average; Duct Burners On						
	Effingham County Power		Combustion Turbine	Natural Gas	180	MW		Oxidation Catalyst	2	PPMVD @ 15% O2	3-hr average; Duct Burners On						
	Hawkeye Generating, LLC		Combustion Turbine	Natural Gas					0.0038	lb/MMBtu	1-hr average; Duct Burners On						
	Huntington Beach Energy Project		Combustion Turbine	Natural Gas	939	MW			1	PPMVD @ 15% O2	3-hr average; Duct Burners On						
	Hess Newark Energy Center		Combustion Turbine	Natural Gas					2	PPMVD @ 15% O2	Avg of 3 stack test runs; Duct Burners On						
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		Oxidation Catalyst	1	PPMVD @ 15% O2	1-hr average	3.2	lb/hr	1-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		Oxidation Catalyst	47.8	tpy	12-mo rolling						
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.00231	lb/MMBtu		4.2	lb/hr				
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.00302	lb/MMBtu		4.2	lb/hr				
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.0375	lb/MMBtu							
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.015	lb/MMBtu							
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.0105	lb/MMBtu		30.7	lb/hr				
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.00517	lb/MMBtu		30.7	lb/hr				
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			1.11	lb/hr							
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			2.8	PPMVD @ 15% O2	3-hour	14.1	lb/hr				
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			3	PPMVD @ 15% O2	3-hr average						
	ST. JOSEPH ENEGRY CENTER, LLC		FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	OXIDIZED CATALYST	2	PPMVD @ 15% O2	3 HOURS						

Table D-A-5
Volatile Organic Compounds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	WARREN COUNTY POWER PLANT - DOMINION		COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	1.6	PPMVD @ 15% O2	3 HR AVERAGE (WITH DUCT BURNER FIRING)						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			0.7	PPMVD @ 15% O2	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Combustion Turbine	Natural Gas	630	MW			1.8	PPMVD @ 15% O2	1-hr average						
	Woodbridge Energy Center (CPV Shore, LLC)		Combustion Turbine	Natural Gas	2,807	MMBtu/hr			2	PPMVD @ 15% O2							
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,307	MMBtu/hr			1	PPMVD @ 15% O2							
	PA STATE UNIV/UNIV PARK CAMPUS		COMBINED HEAT AND POWER DUAL-FIRED COMBUSTION TURBINE	Natural Gas	86.29	MMBtu/hr			10.8	PPMVD @ 15% O2							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			3.9	PPMVD @ 15% O2		10.7	lb/hr				
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			1	PPMVD @ 15% O2		3	lb/hr				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			2.4	PPMVD @ 15% O2							
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			1.4	PPMVD @ 15% O2							
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			1.2	PPMVD @ 15% O2	>32 °F						
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			4	PPMVD @ 15% O2	<32 °F						
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0038	lb/MMBtu		54.16	tpy				
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0016	lb/MMBtu		54.16	tpy				
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			1	PPMVD @ 15% O2	1-hr rolling						
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			1	PPMVD @ 15% O2	3-hr rolling						
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			1	PPMVD @ 15% O2		0.001	lb/MMBtu				
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2266	MMBtu/hr			2	PPMVD @ 15% O2		0.0025	lb/MMBtu				
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		1.9	PPMVD @ 15% O2	3-hour block average; average of 3 test runs						
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	each of the combustion turbines with duct burners		1	PPMVD @ 15% O2	1-hour average						
	Calpine/Bethlehem Energy Center				122	MW			1.2	PPMVD @ 15% O2							
	Liberty Electric Power, LLC				1954	MMBtu/hr	Without DB		1.4	PPMVD @ 15% O2							
	Liberty Electric Power, LLC				1954	MMBtu/hr	With DB		4.7	PPMVD @ 15% O2							

Table D-A-6
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTE	6/30/2017	Natural Gas w/o Duc	Natural Gas	2969	MMBtu/hr	Throughput is for turbine only	Oxidation Catalyst	0.7	PPMVD @15% O2		0			0		
FL-0356	OKEECHOBEE CLEAN ENER	3/9/2016	Combined-cycle elec	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total u	Complete combustion minimizes VOC	1	PPMVD@15%O2	GAS OPERATION	2	PPMVD@15%O2	ULSD OPERATIO	0		
*FL-0363	DANIA BEACH ENERGY CEN	12/4/2017	2-on-1 combined cyc	Natural gas	4000	MMBtu/hr	Two nominal 430 MW combustion turbines, coupled to a steam turbine generator	Clean fuels	1	PPMVD@15% O2	FOR NATURAL G	2.6	PPMVD@15% O2	FOR OIL OPERAT	0		
FL-0364	SEMINOLE GENERATING ST	3/21/2018	2-on-1 natural gas co	Natural gas	3514	MMBtu/hr	Two GE 7HA.02 combustion turbines, each rated at 415 MW. Total unit capacity is approximat	Oxidation catalyst	1	PPMVD@15% O2	WITHOUT DUCT	2	PPMVD@15% O2	CT + DUCT BURN	0		
*MI-0435	BELLE RIVER COMBINED C	7/16/2018	FGCTGHRSG (EUC	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Oxidation catalyst technology and good combustion practices.	0.0026	LB/MMBTU	EACH UNIT; HOU	0.0013	LB/MMBTU	EACH UNIT W/O I	0		
*PA-0310	CPV FAIRVIEW ENERGY CE	09/02/2016 +	Combustion turbine a	Natural gas	0		Emission limits are for each turbine fueled by NG and operating without duct burner being fired	and do not include startup/shutdown emis	1	PPMDV @ 15% O2		0			0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle &ar	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (	OXIDATION CATALYST	2	PPM		0			0		
TX-0789	DECORDOVA STEAM ELECT	3/8/2016	Combined Cycle &ar	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (	OXIDATION CATALYST	2	PPM		0			0		
TX-0790	PORT ARTHUR LNG EXPORT	2/17/2016	Refrigeration Compr	natural gas	10	M TONNES/YR	Four GE Frame 7E gas turbines for refrigeration and compression at the site	Dry low NOx burners and good combustion practices	2	PPM	3-HR AVG	0			0		
TX-0790	PORT ARTHUR LNG EXPORT	2/17/2016	Simple Cycle Electri	natural gas	34	MW	Nine GE PGT25+G4 gas turbines for electrical generation at the site at 34 MW/turbine	OXIDATION CATALYST	2	PPM	3-HR AVERAGE	0			0		
TX-0817	CHOCOLATE BAYOU STEAM	2/17/2017	Combined Cycle Cog	NATURAL GAS	50	MW	2 UNITS EACH 50 MW GE LM6000	OXIDATION CATALYST	1	PPMDV		0			0		
*VA-0325	GREENSVILLE POWER STAT	6/17/2016	COMBUSTION TUR	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Oxidation Catalyst and good combustion practices	1.4	PPMVD		214.8	T/YR	PER TURBINE-12	0		
*WV-0029	HARRISON COUNTY POWER	3/27/2018	GE 7HA.02 Turbine	Natural Gas	3496.2	mmBtu/hr	Nominal 640 mWe All emission limits steady-state and include 1000 mmBtu/hr Duct Burner in operation Short Term startup and shutdown limits in lb/event given in permit.	Oxidation Catalyst, Good Combustion Practices	11.4	LB/HR		54.8	TONS/YEAR		2	PPM	
CA-1177	OTAY MESA ENERGY CENTER LLC	7/22/2009	Gas turbine combined cycle	Natural gas	171.7	MW			2	PPMVD@15% OXYGEN	1 HOUR	0			0		
CA-1178	APPLIED ENERGY LLC	3/20/2009	Gas turbine combined cycle	Natural gas	0		Source test results: 1.45 ppm NOx @ 15% O2 or 2.19 lb/hr <0.22 ppm VOC @15%O2 or <0.12 lb/hr	Oxidation catalyst	2	PPMVD AT 15% O2	1 HOUR	0			0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	NATURAL GAS QUALITY GAS ONLY FUEL, GOOD COMBUSTION PRATICES AND OXIDATION CATALYST.	0.0029	LB/MMBTU		0			0		
*CO-0073	PUEBLO AIRPORT GENERATING STATION	7/22/2010	Four combined cycle combution turbines	natural gas	373	mmbtu/hr	Three GE, LMS6000 PF, natural gas-fired, combined cycle CTG, rated at 373 MMBtu per hour each, based on HHV and one (1) HRSG each with no Duct Burners	good combustion control and catalytic oxidation	4	PPMVD AT 15% O2	AVE OVER STACK TEST LENGTH	0			0		
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.	Oxidation catalyst system	6.4	lb/hr	1 HOUR AVERAGE	0			0		
FL-0337	POLK POWER STATION	10/14/2012	Combine cycle power block (4 on 1)	natural gas	1160	MW	Basis for the emission standard is either NSPS Subpart KKKK or Department BACT determinations. The BACT emission standards for NOX while operating in combined cycle are more stringent than the corresponding Subpart KKKK emissions standards of 15 and 42 ppmvd @15% O2 on a 30-day rolling average for natural gas and fuel oil, respectively.	fuel Sulfur limits	1.4	PPMVD @ 15% O2		0			0		
GA-0127	PLANT MCDONOUGH COMBINED CYCLE	1/7/2008	COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	254	MW	6 TURBINES, 254 MW EACH (NOT INCLUDING STEAM RECOVERY), LIMITS ARE FOR EACH TURBINE (MITSUBISHI MODEL M501G). BACKUP FUEL FOR TWO TURBINES IS ULTRA-LOW SULFUR FUEL OIL	OXIDATION CATALYST	1.8	PPMVD @ 15% O2	3-HOUR, WITH DUCT BURNER	1	PPMVD @ 15% O2	3-HOUR, WITHOUT DUCT BURNER	0		
GA-0138	LIVE OAKS POWER PLANT	4/8/2010	COMBINED CYCLE COMBUSTION TURBINE - ELECTRIC GENERATING PLANT	NATURAL GAS	600	MW		GOOD COMBUSTION PRACTICES, CATALYTIC OXIDATION	2	PPMVD @ 15% O2	3-HOUR AVERAGE/CONDITION 2.11	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.	catalytic oxidizer	1	PPMVD @ 15% O2	AVG. OF 3 ONE HOUR TEST RUNS	71.2	TON/YR	12-MONTH ROLLING	0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr			1	PPMVD @ 15% O2	AVERAGE 0F 3 ONE-HOUR TEST RUNS	71.2	TON/YR	12-MONTH ROLLING TOTAL	0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	2.8	lb/hr	HOURLY MAXIMUM	12.3	T/YR	ANNUAL MAXIMUM	1.1	PPM @ 15% O2	ANNUAL AVERAGE
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	0.66	lb/hr	HOURLY MAXIMUM	0			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.0018	LB/MMBTU	EACH CTG; TEST PROTOCOL	0			0		
MN-0066	NORTHERN STATES POWER CO. DBA XCEL ENERGY - RIVERSIDE PLANT	5/16/2006	TURBINE, COMBINED CYCLE (2)	NATURAL GAS	1885	mmbtu/h	TWO COMBUSTION TURBINES, THROUGHPUT FOR EACH	GOOD COMBUSTION PRACTICES	4.6	PPMVD @ 15% O2	3-HR BLOCK	0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CO OXIDATION CATALYST AND GOOD COMBUSTION PRACTICES	1.9	PPMVD @ 15% O2	AVERAGE OF 3 TESTS-EACH 60 MIN	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine without Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burner.	Oxidation catalysts and use of Natural gas a clean burning fuel	0.7	PPMVD @ 15% O2	AVERAGE OF THREE ONE HOUR STACK TESTS	2.11	lb/hr	AVERAGE OF THREE ONE HOUR STACK TESTS	0		
NY-0098	ATHENS GENERATING PLANT	1/19/2007	FUEL COMBUSTION (GAS)	NATURAL GAS	3100	MMBTU/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	GOOD COMBUSTION CONTROL	4	PPMVD @ 15% O2	3 HOUR BLOCK AVERAGE/ STEADY STATE	16.8	lb/hr	3 HOUR BLOCK AVERAGE/ STEADY STATE	4	PPMVD @ 15% O2	3 HOUR BLOCK AVERAGE/ STEADY STATE
NY-0100	EMPIRE POWER PLANT	6/23/2005	FUEL COMBUSTION (NATURAL GAS)	NATURAL GAS	2099	MMBTU/H		OXIDATION CATALYST	1	PPMVD @ 15% O2	AS PER EPA METHOD 25A	1	PPMVD @ 15% O2	AS PER EPA METHOD 25A	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	oxidation catalyst	3.9	lb/hr		28.6	T/YR	PER ROLLING 12 MONTHS	1	PPM	PPMVD AT 15% O2
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, without duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	oxidation catalyst	7.9	lb/hr		56	T/YR	PER ROLLING 12-MONTHS	2	PPM	PPMVD AT 15% O2

Table D-A-6
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners Off	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners off. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Using efficient combustion technology	3.2	lb/hr		44.1	T/YR	PER ROLLING 12 MONTHS	0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	GOOD COMBUSTION	0.3	PPMVD @ 15% O2	3-HR AVG @ 15% O2	5.27	lb/hr	3-HR AVG @ 15% O2	0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.	Oxidation Catalyst	1.5	PPMVD @ 15% O2	WITH OR WITHOUT DUCT BURNER	93.44	TPY 12-MONTH ROLLING	INCLUDING STARTUP AND SHUTDOWN	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		93.85	T/YR	12-MONTH ROLLING TOTAL	0			0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						29	lb/hr		88	T/YR		0		
TX-0546	PATTILLO BRANCH POWER PLANT	6/17/2009	ELECTRICITY GENERATION	NATURAL GAS	350	MW	EACH TURBINE/HRSG WILL BE DESIGNED TO OUTPUT 350 MW. TURBINES BEING CONSIDERED FOR THE PROJECT ARE GE 7FA, GE 7FB, AND SIEMENS SGT6-5000F.	OXIDATION CATALYST	2	PPMVD @ 15% O2	@ 15% O2, 3-HR ROLLING AVG	0			0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	DLN burners in combination with an oxidation catalyst	1.8	PPMVD @ 15% O2	THREE-HOUR ROLLING AVERAGE	0			0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	Natural gas, good combustion practices and oxidation catalyst	2	PPMVD @ 15% O2	3-HR AT 15% OXYGEN	0			0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.	good combustion and natural gas as fuel	2	PPMVD @ 15% O2	@15% O2	0			0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Oxidation catalyst, good combustion practices	2	PPMVD @ 15% O2	CORRECTED TO 15% O2, ROLLING 3 HR AVE	0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.	oxidation catalyst	2	PPMVD @ 15% O2	1 HOUR BASED ON STACK TEST	0			0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW			2	PPMVD @ 15% O2	1HR. AVG.	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	SCR and oxidation catalyst	4	PPMVD @ 15% O2	3-HR AVERAGE	0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	2.6	lb/hr	3 HR AVG. (WITHOUT DUCT BURNER FIRING)	6.1	lb/hr	3 HR. AVG. (WITH DUCT BURNER FIRING)	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Oxidation catalyst; good combustion practices.	0.7	PPMVD @ 15% O2	3 H AVG/WITHOUT DUCT BURNING	0			0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		Oxidation Catalyst	3	PPMVD @ 15% O2	1-HOUR	3	lb/hr	3-HOUR AVERAGE	14.7	T/YR	
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP02)	Natural Gas	40	MW		Oxidation Catalyst	3	PPMVD @ 15% O2	3-HOUR AVERAGE	3	lb/hr	3-HOUR AVERAGE	14.7	T/YR	
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Low NOx Burners	0.003	lb/MMBtu	1-hr average; Duct Burners Off	5.43	lb/hr	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low NOx Burners	3	lb/hr	1-hr average; Duct Burners Off	0.0013	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low NOx Burners	1	PPMVD @ 15% O2	1-hr average; Duct Burners Off	0.009	lb/MW-hr	1-hr average; Duct Burners Off			
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW		Oxidation Catalyst	1	PPMVD @ 15% O2	1-hr average; Duct Burners Off						
	Hawkeye Generating, LLC		Combustion Turbine	Natural Gas					0.0016	lb/MMBtu	1-hr average; Duct Burners Off						
	Huntington Beach Energy Project		Combustion Turbine	Natural Gas	939	MW			1	PPMVD @ 15% O2	1-hr average; Duct Burners Off						
	Hess Newark Energy Center		Combustion Turbine	Natural Gas					1	PPMVD @ 15% O2	Avg of 3 stack test runs; Duct Burners Off						
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		Oxidation Catalyst	1	PPMVD @ 15% O2	1-hr average	3.2	lb/hr	1-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr		Oxidation Catalyst	47.8	tpy	12-mo rolling						
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.00231	lb/MMBtu		4.2	lb/hr				
	Lawrence Energy Center LLC		Combustion Turbine	Natural Gas	180	MW			0.00302	lb/MMBtu		4.2	lb/hr				
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			1.11	lb/hr							
	OREGON CLEAN ENERGY CENTER		2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	oxidation catalyst	1	PPM	PPMVD AT 15% O2						
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			2.8	PPMVD @ 15% O2	3-hour	14.1	lb/hr				
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			3	PPMVD @ 15% O2	3-hr average						
	CPV Valley Energy Center Wawayanda, NY			Natural Gas	630	MW			0.7	PPMVD @ 15% O2	1-hr average						
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,307	MMBtu/hr			1	PPMVD @ 15% O2							

Table D-A-6
Volatile Organic Compunds (VOC) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	PA STATE UNIV/UNIV PARK CAMPUS		COMBINED HEAT AND POWER DUAL-FIRED COMBUSTION TURBINE	Natural Gas	86.29	MMBtu/hr			10.8	PPMVD @ 15% O2							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			1	PPMVD @ 15% O2		3	lb/hr				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			1.4	PPMVD @ 15% O2							
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			1.2	PPMVD @ 15% O2	>32 °F						
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			4	PPMVD @ 15% O2	<32 °F						
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0016	lb/MMBtu		54.16	tpy				
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			1	PPMVD @ 15% O2	1-hr rolling						
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			1	PPMVD @ 15% O2		0.001	lb/MMBtu				
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		1.5	PPMVD @ 15% O2	3-hour block average; average of 3 test runs						
	Calpine/Bethlehem Energy Center				122	MW			1.2	PPMVD @ 15% O2							
	Liberty Electric Power, LLC				1954	MMBtu/hr	Without DB		1.4	PPMVD @ 15% O2							

Table D-A-7
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
MI-0423	INDECK NILES, LLC	1/4/2017	FGCTGHRSG (2 Combined Cycle CTGs with HRSGs)	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period. The throughput capacity is 3421 MMBTU/H for each turbine, and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	9.9	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	FGCTGHRSG (2 Combined cycle CTGs with HRSGs; EUCTGHRSG10 & EUCTGHRSG11)	Natural gas	554	MMBTU/H, each	Two combined cycle natural gas fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period.	Good combustion practices and the use of pipeline quality natural gas.	0.007	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	5.8	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	5.8	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	16	LB/H	HOURLY; EACH UNIT	12.2	LB/H	HOURLY; EACH UNIT W/O DUCT BURNER FIRING	0		
*PA-0306	TENASKA PA PARTNERS/WESTMORELAND GEN FAC	2/12/2016	Large combustion turbine	Natural Gas	0		This process entry is for operations with the duct burner. Limits entered are for each turbine.	Good combustion practices with the use of low ash/sulfer fuels	0.0039	LB/MMBTU		11.8	LB/HR		0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG with duct burner NG only	Natural Gas	3338	MMBtu/hr	Emission limits are for each turbine operating with duct burner and do not include startup/shutdown emissions. Tons per year limits is a cumulative value for all three CCCT. CEMS for NOx, CO, and O2. Each CCCT and duct burner have 5 operational scenarios: 1 CCCT with duct burner fired - fueled by NG only 2 CCCT with duct burner fired - fueled by NG blend with ethane 3 CCCT without duct burner fired - fueled by NG only 4 CCCT without duct burner fired - fueled by NG blend with ethane 5 CCCT without duct burner fired - fueled by ULSD (Limited to emergency use only)	Low sulfur fuel, good combustion practices	0.005	LB/MMBTU		131.5	TONS	12-MONTH ROLLING BASIS	0		
TN-0162	JOHNSONVILLE COGENERATION	4/19/2016	Natural Gas-Fired Combustion Turbine with HRSG	Natural Gas	1339	MMBtu/hr	Turbine throughput is 1019.7 MMBtu/hr when burning natural gas and 1083.7 MMBtu/hr when burning No. 2 oil. Duct burner throughput is 319.3 MMBtu/hr. Duct burner firing will occur during natural gas combustion only.	Good combustion design and practices	0.005	LB/MMBTU		0.015	LB/MMBTU		0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat Recovery Steam Generator, fired Duct Burners, and Steam Turbine Generator	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Pipeline quality natural gas; good combustion practices	0			0			0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	GE 7HA.02 Turbine	Natural Gas	3496.2	mmBtu/hr	Nominal 640 mWe All emission limits steady-state and include 1000 mmBtu/hr Duct Burner in operation Short Term startup and shutdown limits in lb/event given in permit.	Air Filter, Use of Natural Gas, Good Combustion Practices	18.2	LB/HR		100.1	TONS/YEAR		18.2	LB/HR	
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr			0.01	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	77.1	TON/YR	12-MONTH ROLLING TOTAL	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1,350 MW.	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	18	lb/hr	3 HOURS	0.0078	LB/MMBTU	3 HOURS	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1,350 MW.	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	18	lb/hr	3 HOURS	0.0078	LB/MMBTU	3 HOURS	0		
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	USE OF PIPELINE-QUALITY NATURAL GAS EXCLUSIVELY AND GOOD COMBUSTION PRACTICE	0.007	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	22.8	lb/hr	3-HOUR BLOCK AVERAGE	0			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.006	LB/MMBTU	EACH CTG; TEST PROTOCOL	0			0		

Table D-A-7
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	This process is permitted in a flexible group format, identified in the permit as FG-CTG/DB1-2 and is for two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system. Additionally, the HRSG is operating with a natural gas fired duct burner for supplemental firing. The throughput is 2,486 MMBTU/H for each CTG/DB.	Good combustion practices	0.004	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Combustion air filters; efficient combustion control; low sulfur natural gas fuel.	0.0033	LB/MMBTU	TEST PROTOCOL; (3 1-H TESTS IF POSSIBLE)	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	FG-CTGHRSG: 2 Combined cycle CTGs with HRSGs with duct burners	natural gas	647	MMBTU/H for each CTGHRSG	This process is identified in the permit as FGCTGHRSG; it is 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSGs) equipped with duct burners for supplemental firing (EUCTGHRSG1 & EUCTGHRSG2 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. Each CTGHRSG shall not exceed 647 MMBtu/hr on a fuel heat input basis.	Good combustion practices and the use of pipeline quality natural gas.	0.007	LB/MMBTU	TEST PROTOCOL	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Use of natural gas a clean burning fuel	10.6	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Use of Natural gas a clean burning fuel	15.1	lb/hr	AVERAGE OF THREE STACK TEST RUNS	0.0048	LB/MMBTU	AVERAGE OF THREE STACK TEST RUNS	0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.		0.0057	LB/MMBTU		54	T/YR	EACH UNIT	0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	Combined Cycle Combustion Turbine AND DUCT BURNER (3)	Natural Gas	2538000	MMBTU/H	Three powerblocks consisting of three (3) natural gas fired F class combustion turbines coupled with three (3) heat recovery steam generators (HSRGs) equipped with natural gas fired duct burners.		0.0088	LB/MMBTU		0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.		18.5	lb/hr W/ DUCT BURNER		11	11.0 lb/hr WITHOUT		62.89	T/YR 12-MONTH ROLLIN	INCLUDING STARTUP AND SHUTDOWN
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		48.56	TPY	12-MONTH ROLLING TOTAL	21.55	lb/hr		0		
*PA-0298	FUTURE POWER PA/GOOD SPRINGS NGCC FACILITY	3/4/2014	Turbine, COMBINED CYCLE UNIT (Siemens 5000)	Natural Gas	2267	MMBtu/hr			10.4	lb/hr	WITH DUCT BURNER	38.95	T/YR	BASED ON A 12-MONTH ROLLING TOTAL	0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	efficient combustion, natural gas fuel	43	lb/hr		0			0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		good combustion practices	4	lb/hr	3-HOUR AVERAGE	17.5	TONS	CALENDAR YEAR	0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	GE LM6000PF-25 Turbines (4)	Natural Gas	59900	hp ISO	Turbine-duct burner pairs exhaust through common stack	Good Combustion Practices	0.0066	LB/MMBTU	3-HOUR AVERAGE	0			0		
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Natural Gas	59900	HP	EU IDs 5-8 Combined Cycle Natural Gas-fired Combustion Turbines rated at 59,900 hp (44.7 MW)	Combustion Turbines EU IDs 5-8 use good combustion practices involve increasing the residence time and excess oxygen to ensure complete combustion which in turn minimize particulates without an add-on control technology.	0.0066	LB/MMBTU	3-HOUR	0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	2 COMBUSTION TURBINES	NATURAL GAS	170	MW	EACH TURBINE WILL PRODUCE 170 MW	USE PUBLIC UTILITY COMMISSION QUALITY NATURAL GAS W/ SULFUR CONTENT LESS THAN OR EQUAL TO 0.5 GRAINS PER 100 SCF	6	lb/hr		61	T/YR		0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	18	lb/hr	12-MONTH ROLLING AVG (W/ DUCT BURNING)	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	180	MW		USE PUC QUALITY NATURAL GAS	11.78	lb/hr	12-MONTH ROLLING AVG	0			0		
CA-1198	MORRO BAY POWER PLANT	9/25/2008	COMBUSTION TURBINE GENERATOR	NATURAL GAS	180	MW		USE PIPELINE QUALITY NATURAL GAS, OPERATE DUCT BURNERS NO MORE THAN 4000 HRS PER YEAR (12-MONTH ROLLING AVG BASIS)	11	lb/hr	6-HR ROLLING AVG (NO DUCT BURNING)	13.3	lb/hr	6-HR ROLLING AVG (W/ DUCT BURNING)	0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.	USE NATURAL GAS	13.5	lb/hr	STACK TEST	0			0		

Table D-A-7
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	USE PUC QUALITY NATURAL GAS	0.0048	LB/MMBTU	9-HR AVG (NO DUCT BURNING)	0.0049	LB/MMBTU	9-HR AVG (W/ DUCT BURNING)	0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	NATURAL GAS QUALITY FUEL ONLY AND GOOD COMBUSTION CONTROL PRACTICES.	0.0074	LB/MMBTU		10	% OPACITY		0		
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	THROUGHPUT IS FOR TURBINE ONLY WHEN FIRING NATURAL GAS TURBINE: 2136 MMBTU/HR (2.095 MMCF/HR) DUCT BURNER: 445 MMBTU/HR (0.436 MMCF/HR) EMISSION RATES ARE FOR EACH COMBUSTION TURBINE FIRING NATURAL GAS, NOT COMBINED.		11	lb/hr	W/OUT DUCT BURNER	15.2	lb/hr	W/ DUCT BURNER	0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Fuel Usage Restriction to natural gas and low sulfur distillate oil	120.4	TONS/Y	12 MONTH ROLLING AVERAGE	0			0		
FL-0263	FPL TURKEY POINT POWER PLANT	2/8/2005	170 MW COMBUSTION TURBINE, 4 UNITS	NATURAL GAS	170	MW	GENERATING CAPACITY: EACH OF THE FOUR GAS TURBINES HAS A NOMINAL GENERATING CAPACITY OF 170 MW FOR GAS FIRING (180 MW FOR OIL FIRING). EACH OF THE FOUR HEAT RECOVERY STEAM GENERATORS (HRSGS) PROVIDES STEAM TO THE SINGLE STEAM TURBINE ELECTRICAL GENERATOR, WHICH HAS A NOMINAL CAPACITY OF 470 MW. THE TOTAL NOMINAL GENERATING CAPACITY OF THE 4-ON-1 COMBINED CYCLE UNIT IS 1150 MW. FUELS: EACH GAS TURBINE WILL FIRE NATURAL GAS AS THE PRIMARY FUEL AND ULTRA LOW SULFUR (0.001-5% SULFUR) DISTILLATE OIL AS A RESTRICTED ALTERNATE FUEL. EMISSIONS OF ALL POLLUTANTS INCREASE WITH THE FIRING OF OIL. THE APPLICANT REQUESTS 500 HOURS PER YEAR PER GAS TURBINE (OR EQUIVALENT) FOR OIL FIRING. MODES OF OPERATION: STANDARD NORMAL OPERATION, WITH DUCT BURNER, POWER AUGMENTATION AND PEAKING.	PM/PM10 WILL BE MINIMIZED BY THE EFFICIENT COMBUSTION OF NATURAL GAS AND DISTILLATE OIL AT HIGH TEMPERATURES.	0		SEE NOTE	0			0		
FL-0265	HINES POWER BLOCK 4	6/8/2005	COMBINED CYCLE TURBINE	NATURAL GAS	530	MW		CLEAN FUELS	10	% OPACITY	6 MIM BLOCK AVERAGE	0			10	% OPACITY	
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	COMBUSTION TURBINE, COMBINED CYCLE W/ DUCT BURNER	NATURAL GAS (ONLY)	2375.28	MMBTU/H	SIEMENS SGT6-5000F COMBUSTION TURBINE (NGCT, CCGT) FOR ELECTRICAL GENERATION, NOMINAL 269 MW AND 2.1466 MMSCF/HR	GOOD COMBUSTION PRACTICES (GCP)	0		SEE NOTE	0			0		
LA-0136	PLAQUEMINE COGENERATION FACILITY	7/23/2008	(4) GAS TURBINES/DUCT BURNERS	NATURAL GAS	2876	MMBTU/H	VISUAL INSPECTION FOR OPACITY ON A WEEKLY BASIS, STACK TESTS FOR PM, NOX, SO2, OPACITY, CO EMISSION POINTS GT-500, -600, -700, -800.	USE OF CLEAN BURNING FUELS	33.5	lb/hr	HOURLY MAXIMUM	139	T/YR	ANNUAL MAXIMUM	0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		USE OF CLEAN BURNING FUEL AND GOOD COMBUSTION PRACTICES	29.4	lb/hr	HOURLY MAXIMUM	128.8	T/YR	ANNUAL MAXIMUM	0		NOT AVAILABLE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	TWO COMBINED CYCLE GAS TURBINES	NATURAL GAS	2110	MMBTU/H	CTG-1 TURBINE/DUCT BURNER (EQT012) CTG-2 TURBINE/DUCT BURNER(EQT013)	GOOD COMBUSTION DESIGN/ PROPER OPERATING PRACTICES/ PIPELINE QUALITY NATURAL GAS AS FUEL	24.23	lb/hr	MAX	0			0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	2.08	lb/hr	HOURLY MAXIMUM	0			0		
MI-0366	BERRIEN ENERGY, LLC	4/13/2005	3 COMBUSTION TURBINES AND DUCT BURNERS	NATURAL GAS	1584	MMBTU/H	EACH TURBINE IS EQUIPPED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG). EACH HRSG IS EQUIPPED WITH A NATURAL GAS FIRED DUCT BURNER (650 MMBTU/H). TOTAL NOMINAL PLAN GENERATING CAPACITY WITHOUT DUCT FIRING IS 800 MW. A MAX OUTPUT OF 1100 MW THROUGH SUPPLEMENTAL FIRING OF HRSGS.	STATE OF THE ART COMBUSTION TECHNIQUES AND USE OF NATURAL GAS ARE BACT FOR PM10.	19	lb/hr		293.3	T/YR		0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	COMBINED CYCLE COMBUSTION TURBINE W/DUCT BURNER	NATURAL GAS	1758	MMBTU/H	COMBUSTION TURBINE PERMITTED TO USE NG & NO. 2 OIL; DUCT BURNER PERMITTED TO USE NG & NO. 2 OIL. DUCT BURNER ALSO AUTHORIZED TO COMBUST LIQUID BIOFUEL.		0.01	LB/MMBTU	CTG NG OR CTG & DB NG	0.015	LB/MMBTU	CTG NG & DB OIL	0.03	LB/MMBTU	CTG OIL & DB NOT OPERATE OR DB NG OR OIL
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.	USE OF ONLY CLEAN-BURNING LOW-SULFUR FUELS AND GOOD COMBUSTION PRACTICES.	0.019	LB/MMBTU	based on 3-hour average	0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE & DUCT BURNER, COMBINED CYCLE, NAT GAS, 3	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired HRSG & a natural gas fired duct burner. Limits for this process are for turbines and duct burners.	CLEAN BURNING LOW-SULFUR FUELS AND GOOD COMBUSTION PRACTICES	0.021	LB/MMBTU	3-hr avg	0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CLEAN FUELS - NATURAL GAS AND ULTRA LOW SULFUR (15PPM SULFUR) DISTILLATE OIL	18.66	lb/hr		0			0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	LOW SULFUR FUEL	0.0055	LB/MMBTU	NO DUCT BURNING	0.0066	LB/MMBTU	W/DUCT BURNING	0		
OK-0115	LAWTON ENERGY COGEN FACILITY	12/12/2006	COMBUSTION TURBINE AND DUCT BURNER					GOOD COMBUSTION PRACTICES	0.0067	LB/MMBTU		0			0		
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					USE OF LOW ASH FUEL (NATURAL GAS) AND EFFICIENT COMBUSTION	0.0093	LB/MMBTU		0			0		
OR-0041	WANAPA ENERGY CENTER	8/8/2005	COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	2384.1	MMBTU/H	GE 7241FA TURBINE AND DUCT BURNER. COMBUSTION TURBINE - 1,778.5 MMBTU/HR DUCT BURNER - 605.6 MMBTU/HR		0		SEE POLUTANT NOTE	0			0		

Table D-A-7
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
OR-0048	CARTY PLANT	12/29/2010	COMBINED CYCLE NATURAL GAS-FIRED ELECTRIC GENERATING UNIT	NATURAL GAS	2866	MMBTU/H		CLEAN FUEL	2.5	LB/MMCF		0			0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Using fuel with little or no ash and sulfur content.	0.004	LB/MMBTU	FOR 468 MW POWERBLOCK	0.0057	LB/MMBTU	FOR 454 MW POWERBLOCK	0		
TX-0497	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	COGENERATION TRAIN 2 AND 3 (TURBINE AND DUCT BURNER EMISSIONS)	NATURAL GAS	35	MW	GREEN POWER ONE WILL CONSIST OF TWO NOMINALLY RATED 35 MW GAS FIRED TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS, EQUIPPED WITH 312 MMBTU/HR DUCT BURNERS. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NATURAL GAS. THE DUCT BURNERS WILL BURN NATURAL GAS, COMPLEX GAS OR MIXTURES OF NATURAL GAS AND COMPLEX GAS. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROXIMATELY HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE EMISSIONS ARE PER TRAIN.	THE USE OF PROPER COMBUSTION CONTROL AND FIRING ONLY GASEOUS FUELS CONTAINING NO ASH IS BACT FOR PARTICULATE MATTER FROM THE GAS FIRED TURBINES AND DUCT BURNERS.	10.03	lb/hr		71.32	T/YR		0		
TX-0502	NACOGDOCHES POWER STERNE GENERATING FACILITY	6/5/2006	WESTINGHOUSE/ SIEMENS MODEL SW501F GAS TURBINE W/ 416.5 MMBTU DUCT BURNERS	NATURAL GAS	190	MW		STEAG POWER LLC REPRESENTS THE FIRING OF PIPELINE NATURAL GAS IN THE COMBUSTION TURBINES AND DUCT FIRED HRSGS AS BACT FOR PM10.	26.9	lb/hr		275.4	T/YR		0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						264	lb/hr		525	T/YR		0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	use low ash fuel (natural gas or low sulfur diesel as a backup) and good combustion practices	11.1	lb/hr		19.8	lb/hr		0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	Good combustion and the use of gaseous fuel	27	lb/hr		0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	good combustion and use of natural gas	27	lb/hr		0			0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	COMBUSTION TURBINES, (2)	Natural Gas	593	MMBTU/H	Burns primarily natural gas but has the capacity to burn up to 500 hours of ultra low sulfur diesel fuel (ULSD) as backup.	Clean-burning fuels and good combustion practices.	5	lb/hr	3 H AVG	0			0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LIMIT FUEL TYPE TO NATURAL GAS	0			0			0		*SEE NOTES
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Clean Fuel	0.0098	lb/MMBtu	1-hr average; Duct Burners On	18	lb/hr	1-hr average; Duct Burners On			
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			11.8	lb/hr		0.0039	lb/MMBtu				
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0064	lb/MMBtu		121.77	tpy				
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0063	lb/MMBtu		121.77	tpy				
	Liberty Electric Power, LLC				1954	MMBtu/hr	With DB		28.1	lb/hr							
	Catoctin Power LLC		Combustion Turbine	Natural Gas	170	MW		Pipeline quality low sulfur NG; DLN combustion design	21.1	lb/hr	3-hr average						
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			0.0048	lb/MMBtu	24-hr average						
	York Energy Center Block 1				1574	MMBtu/hr			0.0141	lb/MMBtu	hourly basis						
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	13	lb/hr	1-hr average; Duct Burners On	0.0062	lb/MMBtu	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	0.041	lb/MW-hr	1-hr average; Duct Burners On						
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			17.1	lb/hr	3-hr average	0.0068	lb/MMBtu	3-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			70	tpy	12-mo rolling						
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			6	lb/hr							
	PacifiCorp Energy		Block 1 CT	Natural Gas					10.8	lb/hr	30-day rolling average						
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			14	lb/hr	30-day rolling average						
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			0.004	lb/MMBtu							
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			14	lb/hr	30-day rolling average						
	WARREN COUNTY POWER PLANT - DOMINION		COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	21.2	lb/hr	(WITH DUCT BURNER FIRING)	0.0061	lb/MMBtu				
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2807	MMBtu/hr			19.1	lb/hr							
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2307	MMBtu/hr			12.1	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2254	MMBtu/hr			17.3	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2254	MMBtu/hr			14	lb/hr							
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW						0.0088	lb/MMBtu	24-hr average			
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		18.4	lb/hr	average of 3 test runs						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		10.7	lb/hr	average of 3 test runs						
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW		Combusting commercially available, pipeline natural gas in the turbines and duct burners	0.005	lb/MMBtu	1-hr average						

Table D-A-7
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			0.006	lb/MMBtu	1-hr average						
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	each of the combustion turbines with duct burners		0.0066	lb/MMBtu	combustion turbines with duct burners						

Table D-A-8
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating unit	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas. Permitted to burn the base-load equivalent of 500 hr/yr per turbine on ULSD.	Use of clean fuels	2	GRAIN S/100 SCF GAS	FOR NATURAL GAS	0.0015	% S IN ULSD	FOR ULSD	0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	2-on-1 combined cycle unit (GE 7HA)	Natural gas	4000	MMBtu/hr	Two nominal 430 MW combustion turbines, coupled to a steam turbine generator	Clean fuels	0			0			0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Combined cycle CTG with unfired HRSG)	Natural gas	1934.7	MMBTU/H	A 1,934.7 MMBTU/H natural gas fired heavy frame industrial combustion turbine. The turbine operates in combined-cycle with an unfired heat recovery steam generator (HRSG).	Good combustion practices and the use of pipeline quality natural gas, combustion inlet air filter.	0.0025	LB/MMBTU		0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	16	LB/H	HOURLY; EACH UNIT	12.2	LB/H	HOURLY; EACH UNIT W/O DUCT BURNER FIRING	0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine firing Natural Gas with Duct Burner	natural gas	4000	h/yr		USE OF NATURAL GAS A CLEAN BURNING FUEL	10.4	LB/H	AV OF THREE ONE H STACK TESTS EVERY 5 YR	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine firing Natural Gas without Duct Burner	Natural Gas	8040	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL	4.4	LB/H	AV OF THREE ONE H STACK TESTS EVERY 5 YR	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG without duct burner NG only	Natural gas	0		Emission limits are for each turbine fueled by NG and operating without duct burner being fired and do not include startup/shutdown emissions.	Low sulfur fuels and good combustion practices	0.0068	LB/MMBTU		0			0		
TX-0817	CHOCOLATE BAYOU STEAM GENERATING (CBSG) STATION	2/17/2017	Combined Cycle Cogeneration	NATURAL GAS	50	MW	2 UNITS EACH 50 MW GE LM6000		6.98	LB/H		0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	Combined Cycle Turbine	NATURAL GAS	2635	MMBTU/HR/UNIT	Two Mitsubishi M501GAC turbines (without fast start)	PIPELINE NATURAL GAS, GOOD COMBUSTION	125.7	TON/YR		0			0		
*CO-0073	PUEBLO AIRPORT GENERATING STATION	7/22/2010	Four combined cycle combution turbines	natural gas	373	mmbtu/hr	Three GE, LMS6000 PF, natural gas-fired, combined cycle CTG, rated at 373 MMBtu per hour each, based on HHV and one (1) HRSG each with no Duct Burners	Use of pipeline quality natural gas and good combustor design	4.3	lb/hr	AVE OVER STACK TEST LENGTH	0			0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		0.012	LB/MMBTU	HOURLY AVERAGE	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1,350 MW.	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	18	lb/hr	3 HOURS	0.0078	LB/MMBTU	3 HOURS	0		
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	USE OF PIPELINE-QUALITY NATURAL GAS EXCLUSIVELY AND GOOD COMBUSTION PRACTICE	0.011	LB/MMBTU	AVERAGE OF THREE STACK TEST RUNS	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITHOUT DUCT FIRING	NATURAL GAS	270	MW		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	15	lb/hr	3-HOUR BLOCK AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITHOUT DUCT FIRING	NATURAL GAS	270	MW		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	25.1	lb/hr	AVERAGE OF 3 STACK TEST RUNS	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITHOUT DUCT FIRING	NATURAL GAS	270	MW		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	25.1	lb/hr	AVERAGE OF 3 STACK TEST RUNS	0			0		
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		0.0066	LB/MMBTU	TEST	7.4	lb/hr	TEST	0		
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		0.0066	LB/MMBTU	TEST	7.4	lb/hr	TEST	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.006	LB/MMBTU	EACH CTG; TEST PROTOCOL	0.012	LB/MMBTU	EACH CTG; TEST PROTOCOL	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.006	LB/MMBTU	EACH CTG; TEST PROTOCOL	0.012	LB/MMBTU	EACH CTG; TEST PROTOCOL	0		

Table D-A-8
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Combustion air filters; efficient combustion control; low sulfur natural gas fuel.	0.0033	LB/MMBTU	TEST PROTOCOL; (3 1-H TESTS IF POSSIBLE)	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Combustion air filters; efficient combustion control; low sulfur natural gas fuel.	0.0066	LB/MMBTU	TEST PROTOCOL (3 1-H TESTS IF POSSIBLE)	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Combustion air filters; efficient combustion control; low sulfur natural gas fuel.	0.0066	LB/MMBTU	TEST PROTOCOL (3 1-H TESTS IF POSSIBLE)	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Combined Cycle Combustion Turbine -Siemens turbine without Duct Burner	Natural gas	33691	MMCubic ft/yr	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each Siemens combustion turbine will be 2,356 MMBtu/hr(HHV)	USE OF NATURAL GAS A CLEAN BURNING FUEL	13	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITHOUT DUCT BURNER - GENERAL ELECTRIC	Natural Gas	33691	MMCF/YR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion turbine will be 2,312 MMBtu/hr(HHV)	Use of Natural Gas as a clean burning fuel	12.7	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine without Duct Burner	Natural Gas	20282	MMCF/YR	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Use of natural gas a clean burning fuel	10	lb/hr	AVERAGE OF THREE ONE HOUR STACK TESTS	0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	clean burning fuel, only natural gas	13.3	lb/hr		61.3	T/YR	PER ROLLING 12-MONTHS	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, without duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	clean burning fuel, only natural gas	11.3	lb/hr		44.2	T/YR	PER ROLLING 12-MONTHS	0		
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners Off	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners off. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Burning natural gas in an efficient combustion turbine	15	lb/hr		87.2	T/YR	PER ROLLING 12 MONTHS	0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.		0.0057	LB/MMBTU		54	T/YR	TOTAL PM	0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.		18.5	lb/hr W/ DUCT BURNER		11	lb/hr WITHOUT		62.89	T/YR 12-MONTH ROLLIN	INCLUDING STARTUP AND SHUTDOWN
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		48.56	TPY	12-MONTH ROLLING TOTAL	10	lb/hr		0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		48.56	TPY	12-MONTH ROLLING TOTAL	0			0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Low sulfur fuel, good combustion practices	2	PPMVD		0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.		15.22	lb/hr		0			0		
*TX-0689	CEDAR BAYOU ELECTRIC GENERATION STATION	8/29/2014	Combined cycle natural gas turbines	Natural Gas	225	MW		Good combustion practices, natural gas	0			0			0		
*TX-0698	BAYPORT COMPLEX	9/5/2013	(4) cogeneration turbines	natural gas	90	MW	(4) GE 7EA turbines providing power and process steam		0			0			0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW			0			0			0		
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.		0			0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	43	lb/hr		0			0		

Table D-A-8
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	43	lb/hr		0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner		35.47	lb/hr		81.88	T/YR		0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	Good combustion practices and use of pipeline quality natural gas	16	lb/hr		109.5	TPY		0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur/carbon fuel and good combustion practices.	0.0033	LB/MMBTU	3 H AVG/WITHOUT DUCT BURNING	9.7	lb/hr	3 H AVG/WITHOUT DUCT BURNING	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur/carbon fuel and good combustion practices.	0.0033	LB/MMBTU	3 H AVG/WITHOUT DUCT BURNING	9.7	lb/hr	3 H AVG/WITHOUT DUCT BURNING	0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	GE LM6000PF-25 Turbines (4)	Natural Gas	59900	hp ISO	Turbine-duct burner pairs exhaust through common stack	Good Combustion Practices	0.0066	LB/MMBTU	3-HOUR AVERAGE	0			0		
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Natural Gas	59900	HP	EU IDs 5-8 Combined Cycle Natural Gas-fired Combustion Turbines rated at 59,900 hp (44.7 MW)	Combustion Turbines EU IDs 5-8 use good combustion practices involve increasing the residence time and excess oxygen to ensure complete combustion which in turn minimize particulates without an add-on control technology.	0.0066	LB/MMBTU	3-HOUR	0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	2 COMBUSTION TURBINES	NATURAL GAS	170	MW	EACH TURBINE WILL PRODUCE 170 MW	USE PUBLIC UTILITY COMMISSION QUALITY NATURAL GAS W/ SULFUR CONTENT LESS THAN OR EQUAL TO 0.5 GRAINS PER 100 SCF	6	lb/hr		61	T/YR		0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	12	lb/hr	PUC QUALITY NATURAL GAS	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	Natural Gas	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	12	lb/hr	12-MONTH ROLLING AVG (NO DUCT BURNING)	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	180	MW		USE PUC QUALITY NATURAL GAS	8.91	lb/hr	12-MONTH ROLLING AVG	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #2 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	180	MW		USE PUC QUALITY NATURAL GAS	8.91	lb/hr	12-MONTH ROLLING AVG	0			0		
CA-1198	MORRO BAY POWER PLANT	9/25/2008	COMBUSTION TURBINE GENERATOR	NATURAL GAS	180	MW		USE PIPELINE QUALITY NATURAL GAS, OPERATE DUCT BURNERS NO MORE THAN 4000 HRS PER YEAR (12-MONTH ROLLING AVG BASIS)	11	lb/hr	6-HR ROLLING AVG (NO DUCT BURNING)	13.3	lb/hr	6-HR ROLLING AVG (W/ DUCT BURNING)	0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.	USE NATURAL GAS	13.5	lb/hr	STACK TEST	0			0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	USE PUC QUALITY NATURAL GAS	0.0048	LB/MMBTU	9-HR AVG (NO DUCT BURNING)	0.0049	LB/MMBTU	9-HR AVG (W/ DUCT BURNING)	0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	NATURAL GAS QUALITY FUEL ONLY AND GOOD COMBUSTION CONTROL PRACTICES.	0.0074	LB/MMBTU		10	% OPACITY		0		
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	THROUGHPUT IS FOR TURBINE ONLY WHEN FIRING NATURAL GAS TURBINE: 2136 MMBTU/HR (2.095 MMCF/HR) DUCT BURNER: 445 MMBTU/HR (0.436 MMCF/HR) EMISSION RATES ARE FOR EACH COMBUSTION TURBINE FIRING NATURAL GAS, NOT COMBINED.		11	lb/hr	W/OUT DUCT BURNER	15.2	lb/hr	W/ DUCT BURNER	0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	COMBINED CYCLE COMBUSTION GAS TURBINES - 6 UNITS	NATURAL GAS	2333	MMBTU/H	2117 MMBTU/HR FUEL OIL. EACH COMBINED CYCLE UNIT SYSTEM (TWO ‘‘3-ON-1‘‘ WILL CONSIST OF: THREE NOMINAL 250 MEGAWATT MODEL 501G GAS TURBINE-ELECTRICAL GENERATOR SETS WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSGÃ¿S) WITH SCR REACTORS; ONE NOMINAL 428 MMBTU/HOUR (LHV) GAS-FIRED DUCT BURNER LOCATED WITHIN EACH OF THE THREE HRSGÃ¿S; THREE 149 FEET EXHAUST STACKS; ONE 26 CELL MECHANICAL DRAFT COOLING TOWER; AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.		2	GS/100 SCF GAS		0			0		
FL-0303	FPL WEST COUNTY ENERGY CENTER UNIT 3	7/30/2008	THREE NOMINAL 250 MW CTG (EACH) WITH SUPPLEMENTARY-FIRED HRSG	NATURAL GAS	2333	MMBTU/H	FUELHEAT INPUT RATE (LHV): OIL2,117 MMBTU/H COMBINED CYCLE UNIT 3 WILL CONSIST OF: THREE NOMINAL 250 MW COMBUSTION TURBINE-ELECTRICAL GENERATORS (CTG) WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSG) WITH SELECTIVE CATALYTIC REDUCTION (SCR) REACTORS AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.		2	GR/100 SCF GAS		0.0015	PERCENT (FUEL OIL)		0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H		FUEL SPECIFICATIONS : 2 GR S/100 SCF OF GAS	2	GR S/100 SCF GAS		10	OPACITY		0		

Table D-A-8
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0337	POLK POWER STATION	10/14/2012	Combine cycle power block (4 on 1)	natural gas	1160	MW	Basis for the emission standard is either NSPS Subpart KKKK or Department BACT determinations. The BACT emission standards for NOX while operating in combined cycle are more stringent than the corresponding Subpart KKKK emissions standards of 15 and 42 ppmvd @15% O2 on a 30-day rolling average for natural gas and fuel oil, respectively.	work practices	2	GR S/100 SCF OF GAS		0.0015	S FUEL OIL		0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		USE OF CLEAN BURNING FUEL AND GOOD COMBUSTION PRACTICES	29.4	lb/hr	HOURLY MAXIMUM	128.8	T/YR	ANNUAL MAXIMUM	0		NOT AVAILABLE
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	TURBINES ALSO PERMITTED TO BURN NO. 2 FUEL OIL AND ULTRA LOW SULFUR DIESEL. FUEL OIL USE IS LIMITED TO 1000 HOURS PER YEAR.	WHILE FIRING NATURAL GAS: USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES WHILE FIRING FUEL OIL: USE OF ULTRA LOW SULFUR FUEL OIL AND GOOD COMBUSTION PRACTICES	26.23	lb/hr	HOURLY AVERAGE W/O DUCT BURNER	33.16	lb/hr	HOURLY AVERAGE W/ DUCT BURNER	0		
LA-0256	COGENERATION PLANT	12/6/2011	COGENERATION TRAINS 1-3 (1-10, 2-10, 3-10)	NATURAL GAS	475	MMBTU/H	EACH COGEN TRAIN CONSISTS OF A 50 MW GE LM6000 PF SPRINT TURBINE AND A HEAT RECOVERY STEAM GENERATOR EQUIPPED WITH A 70 MM BTU/HR DUCT BURNER.	USE OF NATURAL GAS AS FUEL AND GOOD COMBUSTION PRACTICES	3.72	lb/hr	HOURLY MAXIMUM	0			0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	2.08	lb/hr	HOURLY MAXIMUM	0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.	USE OF ONLY CLEAN-BURNING LOW-SULFUR FUELS AND GOOD COMBUSTION PRACTICES.	0.019	LB/MMBTU	based on 3-hour average	0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CLEAN FUELS - NATURAL GAS AND ULTRA LOW SULFUR (15PPM SULFUR) DISTILLATE OIL	18.66	lb/hr		0			0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	LOW SULFUR FUEL	0.0055	LB/MMBTU	NO DUCT BURNING	0.0066	LB/MMBTU	W/DUCT BURNING	0		
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					USE OF LOW ASH FUEL (NATURAL GAS) AND EFFICIENT COMBUSTION	0.0093	LB/MMBTU		0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	NATURAL GAS FUEL	6.59	lb/hr	3-H AVG	0.0035	LB/MMBTU	24-H AVG	0		
OR-0048	CARTY PLANT	12/29/2010	COMBINED CYCLE NATURAL GAS-FIRED ELECTRIC GENERATING UNIT	NATURAL GAS	2866	MMBTU/H		CLEAN FUEL	2.5	LB/MMCF		0			0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						264	lb/hr		525	T/YR		0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	use of low ash fuel (natural gas or low sulfur diesel as a backup)	11.1	lb/hr		19.8	lb/hr		0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	pipeline quality natural gas	33.43	lb/hr	1-H	0			0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	good combustion and the use of gaseous fuel	27	lb/hr		0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	good combustion and the use of natural gas	27	lb/hr		0			0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.	good combustion and natural gas as fuel	18	lb/hr	PER TURBINE	0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Natural Gas only, fuel has maximum sulfur content of 0.0003% by weight.	8	lb/hr	3 HR AVG. (WITHOUT DUCT BURNER FIRING)	14	lb/hr	3 HR. AVG. (WITH DUCT BURNER FIRING)	0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	COMBUSTION TURBINES, (2)	Natural Gas	593	MMBTU/H	Burns primarily natural gas but has the capacity to burn up to 500 hours of ultra low sulfur diesel fuel (ULSD) as backup.	Clean-burning fuels and good combustion practices.	5	lb/hr	3 H AVG	0			0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LIMIT FUEL TYPE TO NATURAL GAS	0			0			0		*SEE NOTES
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		good combustion practices	4	lb/hr	3-HOUR AVERAGE	17.5	TONS	CALENDAR YEAR	0		
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Clean Fuel	0.0098	lb/MMBtu	1-hr average; Duct Burners Off	12.9	lb/hr	1-hr average; Duct Burners Off			
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			11.8	lb/hr		0.0039	lb/MMBtu				
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0063	lb/MMBtu		121.77	tpy				
	Liberty Electric Power, LLC				1954	MMBtu/hr	Without DB		22.6	lb/hr							
	Liberty Electric Power, LLC				1954	MMBtu/hr	With DB		28.1	lb/hr							
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			0.0048	lb/MMBtu	24-hr average						
	York Energy Center Block 1				1574	MMBtu/hr			0.0141	lb/MMBtu	hourly basis						
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	8.8	lb/hr	1-hr average; Duct Burners Off	0.0071	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	0.041	lb/MW-hr	1-hr average; Duct Burners Off						

Table D-A-8
Particulate Matter (PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			6	lb/hr							
	PacifiCorp Energy		Block 1 CT	Natural Gas					10.8	lb/hr	30-day rolling average						
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			14	lb/hr	30-day rolling average						
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			0.004	lb/MMBtu							
	WARREN COUNTY POWER PLANT - DOMINION		COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	15.5	lb/hr	(W/O DUCT BURNER FIRING)	0.0052	lb/MMBtu				
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,307	MMBtu/hr			12.1	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			17.3	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			14	lb/hr							
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW						0.0088	lb/MMBtu	24-hr average			
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		10.7	lb/hr	average of 3 test runs						

Table D-A-9
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/Duct Firing	Natural Gas	2639	MMBtu/hr	Duct burner MRC is 946 MMbtu/hr	Good Combustion	0.005	LB/MMBTU		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1A	Natural Gas	3625	MMBTU/hr		Good combustion practices and clean burning fuels (natural gas)	17.52	LB/H	HOURLY MAXIMUM	73.35	T/YR		0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1B	Natural Gas	3625	MMBTU/hr		Good combustion practices and clean burning fuels (natural gas)	17.52	LB/H	HOURLY MAXIMUM	73.35	T/YR	ANNUAL MAXIMUM	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGCTGHRSG (2 Combined Cycle CTGs with HRSGs)	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period. The throughput capacity is 3421 MMBTU/H for each turbine, and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	19.8	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	FGCTGHRSG (2 Combined cycle CTGs with HRSGs; EUCTGHRSG10 & EUCTGHRSG11)	Natural gas	554	MMBTU/H, each	Two combined cycle natural gas fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period.	Good combustion practices and the use of pipeline quality natural gas.	0.014	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3 (3 combined cycle combustion turbine and heat recovery steam generator trains)	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG includes a natural gas fired duct burner with a 256 MMBtu/hr heat input capacity and a dry low NOx burner.	Use clean fuel (natural gas) and good combustion practices.	10.7	LB/H	HOURLY; EACH CT/HRSG TRAIN	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.	Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.	19.1	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	19.1	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	16	LB/H	HOURLY; EACH UNIT	12.2	LB/H	HOURLY; EACH UNIT W/O DUCT BURNER FIRING	0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine firing Natural Gas with Duct Burner	natural gas	4000	lb/yr		COMPLIANCE BY STACK TESTING	18.3	LB/H	AV OF THREE ONE H STACK TESTS EVERY 5 YR	0			0		
*PA-0306	TENASKA PA PARTNERS/WESTMORELAND GEN FAC	2/12/2016	Large combustion turbine	Natural Gas	0		This process entry is for operations with the duct burner. Limits entered are for each turbine.	Good combustion practices with the use of low ash/sulfer fuels	0.0039	LB/MMBTU		11.8	LB/HR		0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG with duct burner NG only	Natural Gas	3338	MMBtu/hr	Emission limits are for each turbine operating with duct burner and do not include startup/shutdown emissions. Tons per year limits is a cumulative value for all three CCCT. CEMS for NOx, CO, and O2. Each CCCT and duct burner have 5 operational scenarios: 1 CCCT with duct burner fired - fueled by NG only 2 CCCT with duct burner fired - fueled by NG blend with ethane 3 CCCT without duct burner fired - fueled by NG only 4 CCCT without duct burner fired - fueled by NG blend with ethane 5 CCCT without duct burner fired - fueled by ULSD (Limited to emergency use only)	Low sulfur fuel, good combustion practices	0.005	LB/MMBTU		131.5	TONS	12-MONTH ROLLING BASIS	0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat Recovery Steam Generator, fired Duct Burners, and Steam Turbine Generator	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Pipeline quality natural gas; good combustion practices	0			0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	COMBUSTION TURBINE GENERATOR WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATORS (3)	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Low sulfur/carbon fuel and good combustion pratices	0.0039	LB/MMBTU	AVG OF 3 TEST RUNS	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr			0.01	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	77.1	T/YR	12-MONTH ROLLING TOTAL	0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		0.012	LB/MMBTU	HOURLY AVERAGE	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	18	lb/hr	3 HOURS	0.0078	LB/MMBTU	3 HOURS	0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Combustion Turbine with Duct Burner	Natural Gas	2449	MMBtu/hr	two 315 MW (nominal) GE Energy 7F Series 5 Rapid Response Combined Cycle Combustion Turbines with Duct Burners and 31 MW (estimated) steam turbine generators		0.0062	LB/MMBTU	1 HR AVG/DO NOT APPLY DURING SS	13	lb/hr	1 HR AVG/DO NOT APPLY DURING SS	0		

Table D-A-9
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	USE OF PIPELINE-QUALITY NATURAL GAS EXCLUSIVELY AND GOOD COMBUSTION PRACTICE	0.011	LB/MMBTU	AVERAGE OF THREE STACK TEST RUNS	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	38	lb/hr	AVERAGE OF 3 STACK TEST RUNS	0			0		
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		0.0066	LB/MMBTU	TEST	7.4	lb/hr	TEST	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	This process is permitted in a flexible group format, identified in the permit as FG-CTG/DB1-2 and is for two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system. Additionally, the HRSG is operating with a natural gas fired duct burner for supplemental firing. The throughput is 2,486 MMBTU/H for each CTG/DB.	Good combustion practices	0.008	LB/MMBTU	TEST PROTOCOL	19.9	lb/hr	TEST PROTOCOL	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	This process is permitted in a flexible group format, identified in the permit as FG-CTG/DB1-2 and is for two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system. Additionally, the HRSG is operating with a natural gas fired duct burner for supplemental firing. The throughput is 2,486 MMBTU/H for each CTG/DB.	Good combustion practices	0.004	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Combustion air filters; efficient combustion control; low sulfur natural gas fuel.	0.0066	LB/MMBTU	TEST PROTOCOL (3 1-H TESTS IF POSSIBLE)	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	FG-CTGHRSG: 2 Combined cycle CTGs with HRSGs with duct burners	natural gas	647	MMBTU/H for each CTGHRSG	This process is identified in the permit as FGCTGHRSG; it is 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSGs) equipped with duct burners for supplemental firing (EUCTGHRSG1 & EUCTGHRSG2 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. Each CTGHRSG shall not exceed 647 MMBtu/hr on a fuel heat input basis.	Good combustion practices and the use of pipeline quality natural gas.	0.014	LB/MMBTU	TEST PROTOCOL	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Use of natural gas a clean burning fuel	14	lb/hr	AVERAGE OF THREE TESTS	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	Use of natural gas only as a clean burning fuel	14.6	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Use of Natural gas a clean burning fuel	21.55	lb/hr	AVERAGE OF THREE STACK TEST RUNS	0.0069	LB/MMBTU	AVERAGE OF THREE STACK TEST RUNS	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, with duct burners	Natural Gas	51560	MMSCF/rolling 12-MO	Two Siemens 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	clean burning fuel, only natural gas	14	lb/hr		61.3	T/YR	PER ROLLING 12-MONTHS	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, with duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	clean burning fuel, only natural gas	10.1	lb/hr		44.2	T/YR	PER ROLLING 12-MONTHS	0		
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners On	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Burning natural gas in an efficient combustion turbine	19.9	lb/hr		87.2	T/YR	PER ROLLING 12 MONTHS	0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Mitsubishi M501-GAC combustion turbine, combined cycle configuration with duct burner.	natural gs	2988	MMBtu/hr	or ULSD; Duct burner 499 MMBtu/hr, natural gas	Utilize only natural gas or ULSD fuel; Limit the time in startup or shutdown.	23.6	lb/hr	6-HR AVERAGE ON NG	42.3	lb/hr	6-HR AVERAGE ON ULSD	0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.		0.0057	LB/MMBTU		54	T/YR	EACH UNIT	0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	Combined Cycle Combustion Turbine AND DUCT BURNER (3)	Natural Gas	2538000	MMBTU/H	Three powerblocks consisting of three (3) natural gas fired F class combustion turbines coupled with three (3) heat recovery steam generators (HSRGs) equipped with natural gas fired duct burners.		0.0088	LB/MMBTU		0			0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		48.56	T/YR	12-MONTH ROLLING TOTAL	21.55	lb/hr		0		
*PA-0298	FUTURE POWER PA/GOOD SPRINGS NGCC FACILITY	3/4/2014	Turbine, COMBINED CYCLE UNIT (Siemens 5000)	Natural Gas	2267	MMBtu/hr			15.6	lb/hr	WITH DUCT BURNER	58.7	T/YR	BASED ON A 12-MONTH ROLLING TOTAL	0		

Table D-A-9
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	43	lb/hr		0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner		35.47	lb/hr		81.88	T/YR		0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	Good combustion practices and use of pipeline quality natural gas	16	lb/hr		109.5	T/YR		0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP02)	Natural Gas	40	MW		good combustion practices	4	lb/hr	3-HOUR AVERAGE	17.5	T/YR	CALENDAR YEAR	0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	GE LM6000PF-25 Turbines (4)	Natural Gas	59900	hp ISO	Turbine-duct burner pairs exhaust through common stack	Good Combustion Practices	0.0066	LB/MMBTU	3-HOUR AVERAGE	0			0		
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Natural Gas	59900	HP	EU IDs 5-8 Combined Cycle Natural Gas-fired Combustion Turbines rated at 59,900 hp (44.7 MW)	Combustion Turbines EU IDs 5-8 use good combustion practices involve increasing the residence time and excess oxygen to ensure complete combustion which in turn minimize particulates without an add-on control technology.	0.0066	LB/MMBTU	3-HOUR	0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	2 COMBUSTION TURBINES	NATURAL GAS	170	MW	EACH TURBINE WILL PRODUCE 170 MW	USE PUBLIC UTILITY COMMISSION QUALITY NATURAL GAS W/ SULFUR CONTENT LESS THAN OR EQUAL TO 0.5 GRAINS PER 100 SCF	6	lb/hr		61	T/YR		0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	18	lb/hr	12-MONTH ROLLING AVG (W/ DUCT BURNING)	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	180	MW		USE PUC QUALITY NATURAL GAS	11.78	lb/hr	12-MONTH ROLLING AVG	0			0		
CA-1198	MORRO BAY POWER PLANT	9/25/2008	COMBUSTION TURBINE GENERATOR	NATURAL GAS	180	MW		USE PIPELINE QUALITY NATURAL GAS, OPERATE DUCT BURNERS NO MORE THAN 4000 HRS PER YEAR (12-MONTH ROLLING AVG BASIS)	11	lb/hr	6-HR ROLLING AVG (NO DUCT BURNING)	13.3	lb/hr	6-HR ROLLING AVG (W/ DUCT BURNING)	0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.	USE NATURAL GAS	13.5	lb/hr	STACK TEST	0			0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	USE PUC QUALITY NATURAL GAS	0.0048	LB/MMBTU	9-HR AVG (NO DUCT BURNING)	0.0049	LB/MMBTU	9-HR AVG (W/ DUCT BURNING)	0		
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	THROUGHPUT IS FOR TURBINE ONLY WHEN FIRING NATURAL GAS TURBINE: 2136 MMBTU/HR (2.095 MMCF/HR) DUCT BURNER: 445 MMBTU/HR (0.436 MMCF/HR) EMISSION RATES ARE FOR EACH COMBUSTION TURBINE FIRING NATURAL GAS, NOT COMBINED.		11	lb/hr	W/OUT DUCT BURNER	15.2	lb/hr	W/ DUCT BURNER	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	COMBUSTION TURBINE, COMBINED CYCLE W/ DUCT BURNER	NATURAL GAS (ONLY)	2375.28	MMBTU/H	SIEMENS SGT6-5000F COMBUSTION TURBINE (NGCT, CCGT) FOR ELECTRICAL GENERATION, NOMINAL 269 MW AND 2.1466 MMSCF/HR	GOOD COMBUSTION PRACTICES (GCP)	0		SEE NOTE	0			0		
LA-0136	PLAQUEMINE COGENERATION FACILITY	7/23/2008	(4) GAS TURBINES/DUCT BURNERS	NATURAL GAS	2876	MMBTU/H	VISUAL INSPECTION FOR OPACITY ON A WEEKLY BASIS, STACK TESTS FOR PM, NOX, SO2, OPACITY, CO EMISSION POINTS GT-500, -600, -700, -800.	USE OF CLEAN BURNING FUELS	33.5	lb/hr	HOURLY MAXIMUM	139	T/YR	ANNUAL MAXIMUM	0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		USE OF CLEAN BURNING FUEL AND GOOD COMBUSTION PRACTICES	29.4	lb/hr	HOURLY MAXIMUM	128.8	T/YR	ANNUAL MAXIMUM	0		NOT AVAILABLE
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	TURBINES ALSO PERMITTED TO BURN NO. 2 FUEL OIL AND ULTRA LOW SULFUR DIESEL. FUEL OIL USE IS LIMITED TO 1000 HOURS PER YEAR.	WHILE FIRING NATURAL GAS: USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES WHILE FIRING FUEL OIL: USE OF ULTRA LOW SULFUR FUEL OIL AND GOOD COMBUSTION PRACTICES	26.23	lb/hr	HOURLY AVERAGE W/O DUCT BURNER	33.16	lb/hr	HOURLY AVERAGE W/ DUCT BURNER	0		
LA-0256	COGENERATION PLANT	12/6/2011	COGENERATION TRAINS 1-3 (1-10, 2-10, 3-10)	NATURAL GAS	475	MMBTU/H	EACH COGEN TRAIN CONSISTS OF A 50 MW GE LM6000 PF SPRINT TURBINE AND A HEAT RECOVERY STEAM GENERATOR EQUIPPED WITH A 70 MM BTU/HR DUCT BURNER.	USE OF NATURAL GAS AS FUEL AND GOOD COMBUSTION PRACTICES	3.72	lb/hr	HOURLY MAXIMUM	0			0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	2.08	lb/hr	HOURLY MAXIMUM	0			0		
MI-0366	BERRIEN ENERGY, LLC	4/13/2005	3 COMBUSTION TURBINES AND DUCT BURNERS	NATURAL GAS	1584	MMBTU/H	EACH TURBINE IS EQUIPPED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG). EACH HRSG IS EQUIPPED WITH A NATURAL GAS FIRED DUCT BURNER (650 MMBTU/H). TOTAL NOMINAL PLAN GENERATING CAPACITY WITHOUT DUCT FIRING IS 800 MW. A MAX OUTPUT OF 1100 MW THROUGH SUPPLEMENTAL FIRING OF HRSGS.	STATE OF THE ART COMBUSTION TECHNIQUES AND USE OF NATURAL GAS ARE BACT FOR PM10.	19	lb/hr		293.3	T/YR		0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	COMBINED CYCLE COMBUSTION TURBINE W/DUCT BURNER	NATURAL GAS	1758	MMBTU/H	COMBUSTION TURBINE PERMITTED TO USE NG & NO. 2 OIL; DUCT BURNER PERMITTED TO USE NG & NO. 2 OIL. DUCT BURNER ALSO AUTHORIZED TO COMBUST LIQUID BIOFUEL.		0.01	LB/MMBTU	CTG NG OR CTG & DB NG	0.015	LB/MMBTU	CTG NG & DB OIL	0.03	LB/MMBTU	CTG OIL & DB NOT OPERATE OR DB NG OR OIL

Table D-A-9
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE & DUCT BURNER, COMBINED CYCLE, NAT GAS, 3	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired HRSG & a natural gas fired duct burner. Limits for this process are for turbines and duct burners.	CLEAN BURNING LOW-SULFUR FUELS AND GOOD COMBUSTION PRACTICES	0.021	LB/MMBTU	3-hr avg	0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CLEAN FUELS - NATURAL GAS AND ULTRA LOW SULFUR (15PPM SULFUR) DISTILLATE OIL	18.66	lb/hr		0			0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	LOW SULFUR FUEL	0.0055	LB/MMBTU	NO DUCT BURNING	0.0066	LB/MMBTU	W/DUCT BURNING	0		
OK-0115	LAWTON ENERGY COGEN FACILITY	12/12/2006	COMBUSTION TURBINE AND DUCT BURNER					GOOD COMBUSTION PRACTICES	0.0067	LB/MMBTU		0			0		
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					USE OF LOW ASH FUEL (NATURAL GAS) AND EFFICIENT COMBUSTION	0.0093	LB/MMBTU		0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	NATURAL GAS FUEL	6.59	lb/hr	3-H AVG	0.0035	LB/MMBTU	24-H AVG	0		
OR-0048	CARTY PLANT	12/29/2010	COMBINED CYCLE NATURAL GAS-FIRED ELECTRIC GENERATING UNIT	NATURAL GAS	2866	MMBTU/H		CLEAN FUEL	2.5	LB/MMCF		0.0083	LB/MMBTU		0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Using fuel with little or no ash and sulfur content.	0.004	LB/MMBTU	FOR 468 MW POWERBLOCK	0.0057	LB/MMBTU	FOR 454 MW POWERBLOCK	0		
TX-0497	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	COGENERATION TRAIN 2 AND 3 (TURBINE AND DUCT BURNER EMISSIONS)	NATURAL GAS	35	MW	GREEN POWER ONE WILL CONSIST OF TWO NOMINALLY RATED 35 MW GAS FIRED TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS, EQUIPPED WITH 312 MMBTU/HR DUCT BURNERS. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NATURAL GAS. THE DUCT BURNERS WILL BURN NATURAL GAS, COMPLEX GAS OR MIXTURES OF NATURAL GAS AND COMPLEX GAS. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROXIMATELY HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE EMISSIONS ARE PER TRAIN.	THE USE OF PROPER COMBUSTION CONTROL AND FIRING ONLY GASEOUS FUELS CONTAINING NO ASH IS BACT FOR PARTICULATE MATTER FROM THE GAS FIRED TURBINES AND DUCT BURNERS.	10.03	lb/hr		71.32	T/YR		0		
TX-0502	NACOGDOCHES POWER STERNE GENERATING FACILITY	6/5/2006	WESTINGHOUSE/ SIEMENS MODEL SW501F GAS TURBINE W/ 416.5 MMBTU DUCT BURNERS	NATURAL GAS	190	MW		STEAG POWER LLC REPRESENTS THE FIRING OF PIPELINE NATURAL GAS IN THE COMBUSTION TURBINES AND DUCT FIRED HRSGS AS BACT FOR PM10.	26.9	lb/hr		275.4	T/YR		0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	use of low ash fuel (natural gas or low sulfur diesel as a backup)	11.1	lb/hr		19.8	lb/hr		0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	good combustion and the use of gaseous fuel	27	lb/hr		0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	good combustion and the use of natural gas	27	lb/hr		0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Natural Gas only, fuel has maximum sulfur content of 0.0003% by weight.	8	lb/hr	3 HR AVG. (WITHOUT DUCT BURNER FIRING)	14	lb/hr	3 HR. AVG. (WITH DUCT BURNER FIRING)	0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	COMBUSTION TURBINES, (2)	Natural Gas	593	MMBTU/H	Burns primarily natural gas but has the capacity to burn up to 500 hours of ultra low sulfur diesel fuel (ULSD) as backup.	Clean-burning fuels and good combustion practices.	5	lb/hr	3 H AVG	0			0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur/carbon fuel and good combustion practices.	0.0047	LB/MMBTU	3 H AVG/WITH DUCT BURNING	9.7	lb/hr	3 H AVG/WITHOUT DUCT BURNING	16.3	3 H AVG/WITH DUCT BURNING	
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LIMIT FUEL TYPE TO NATURAL GAS	17	lb/hr		0			0		*SEE NOTES
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Clean Fuel	0.0098	lb/MMBtu	1-hr average; Duct Burners On	18	lb/hr	1-hr average; Duct Burners On			
	Catoctin Power LLC		Combustion Turbine	Natural Gas	170	MW		Pipeline quality low sulfur NG; DLN combustion design	21.1	lb/hr	3-hr average						
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2542	MMBtu/hr			0.004	lb/MMBtu		9.8	lb/hr				
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			7.5	lb/hr		0.0036	lb/MMBtu				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			11.8	lb/hr		0.0039	lb/MMBtu				
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.0141	lb/MMBtu							
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.0111	lb/MMBtu		211.86	T/YR				
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.011	lb/MMBtu		211.86	T/YR				
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			4.5	lb/hr							
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			9.5	lb/hr							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			11	lb/hr							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2266	MMBtu/hr			13.2	lb/hr							
	York Energy Center Block 1				1574	MMBtu/hr			0.0141	lb/MMBtu	hourly basis						
	Liberty Electric Power, LLC				1954	MMBtu/hr			0.0141	lb/MMBtu							
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	13	lb/hr	1-hr average; Duct Burners On	0.0062	lb/MMBtu	1-hr average; Duct Burners On			

Table D-A-9
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	0.041	LB/MW-hr	1-hr average; Duct Burners On						
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			17.1	lb/hr	3-hr average	0.0068	lb/MMBtu	3-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			70	T/YR	12-mo rolling						
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			6	lb/hr							
	PacifiCorp Energy		Block 1 CT	Natural Gas					10.8	lb/hr	30-day rolling average						
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			14	lb/hr	30-day rolling average						
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			14	lb/hr	30-day rolling average						
	WARREN COUNTY POWER PLANT - DOMINION		COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Oxidation catalyst and good combustion practices.	21.2	lb/hr	(WITH DUCT BURNER FIRING)	0.0061	lb/MMBtu				
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2807	MMBtu/hr			19.1	lb/hr							
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2307	MMBtu/hr			12.1	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2254	MMBtu/hr			17.3	lb/hr							
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW						0.0088	lb/MMBtu	24-hr average			
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		18.4	lb/hr	average of 3 test runs						
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			191.9	T/YR							
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	each of the combustion turbines with duct burners		0.0066	lb/MMBtu	combustion turbines with duct burners						

Table D-A-10
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/o Duct Firing	Natural Gas	2969	MMBtu/hr	Throughput is for turbine only	Good Combustion	0.044	LB/MMBTU		0			0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating unit	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas. Permitted to burn the base-load equivalent of 500 hr/yr per turbine on ULSD.	Use of clean fuels	2	GR. S/100 SCF GAS	FOR NATURAL GAS	0.0015	% S IN ULSD	FOR ULSD	0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	2-on-1 combined cycle unit (GE 7HA)	Natural gas	4000	MMBtu/hr	Two nominal 430 MW combustion turbines, coupled to a steam turbine generator	Clean fuels	0			0			0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Combined cycle CTG with unfired HRSG)	Natural gas	1934.7	MMBTU/H	A 1,934.7 MMBTU/H natural gas fired heavy frame industrial combustion turbine. The turbine operates in combined-cycle with an unfired heat recovery steam generator (HRSG).	Good combustion practices and the use of pipeline quality natural gas, combustion inlet air filter.	0.0066	LB/MMBTU		0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Good combustion practices, inlet air conditioning, and the use of pipeline quality natural gas.	16	LB/H	HOURLY; EACH UNIT	12.2	LB/H	HOURLY; EACH UNIT W/O DUCT BURNER FIRING	0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine firing Natural Gas without Duct Burner	Natural Gas	8040	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL	11.7	LB/H	AV OF THREE ONE H STACK TESTS EVERY 5 YR	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG without duct burner NG only	Natural gas	0		Emission limits are for each turbine fueled by NG and operating without duct burner being fired and do not include startup/shutdown emissions.	Low sulfur fuels and good combustion practices	0.0068	LB/MMBTU		0			0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE) Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES, LOW SULFUR FUEL	19.35	LB/H		0			0		
TX-0789	DECORDOVA STEAM ELECTRIC STATION	3/8/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE). Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES AND LOW SULFUR FUEL	35.47	LB/H		0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Refrigeration Compression Turbines	natural gas	10	M TONNES/YR	Four GE Frame 7E gas turbines for refrigeration and compression at the site		11.07	LB/H		42.15	T/YR		0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Simple Cycle Electrical Generation Gas Turbines 15.210	natural gas	34	MW	Nine GE PGT25+G4 gas turbines for electrical generation at the site at 34 MW/turbine	Equipment specifications & work practices - Good combustion practices and use of low carbon, low sulfur fuel	2.32	LB/H		8.84	T/YR		0		
TX-0817	CHOCOLATE BAYOU STEAM GENERATING (CBSG) STATION	2/17/2017	Combined Cycle Cogeneration	NATURAL GAS	50	MW	2 UNITS EACH 50 MW GE LM6000		6.98	LB/H		0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	Combined Cycle Turbine	NATURAL GAS	2635	MMBTU/HR/UNIT	Two Mitsubishi M501GAC turbines (without fast start)	PIPELINE NATURAL GAS, GOOD COMBUSTION	125.7	TON/YR		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	COMBUSTION TURBINE GENERATOR WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATORS (3)	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Low sulfur/carbon fuel and good combustion pratices	0.0039	LB/MMBTU	AVG OF 3 TEST RUNS	0			0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	GE LM6000PF-25 Turbines (4)	Natural Gas	59900	hp ISO	Turbine-duct burner pairs exhaust through common stack	Good Combustion Practices	0.0066	LB/MMBTU	3-HOUR AVERAGE	0			0		
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Natural Gas	59900	HP	EU IDs 5-8 Combined Cycle Natural Gas-fired Combustion Turbines rated at 59,900 hp (44.7 MW)	Combustion Turbines EU IDs 5-8 use good combustion practices involve increasing the residence time and excess oxygen to ensure complete combustion which in turn minimize particulates without an add-on control technology.	0.0066	LB/MMBTU	3-HOUR	0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	2 COMBUSTION TURBINES	NATURAL GAS	170	MW	EACH TURBINE WILL PRODUCE 170 MW	USE PUBLIC UTILITY COMMISSION QUALITY NATURAL GAS W/ SULFUR CONTENT LESS THAN OR EQUAL TO 0.5 GRAINS PER 100 SCF	6	lb/hr		61	T/YR		0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	180	MW		USE PUC QUALITY NATURAL GAS	8.91	lb/hr	12-MONTH ROLLING AVG	0			0		
CA-1198	MORRO BAY POWER PLANT	9/25/2008	COMBUSTION TURBINE GENERATOR	NATURAL GAS	180	MW		USE PIPELINE QUALITY NATURAL GAS, OPERATE DUCT BURNERS NO MORE THAN 4000 HRS PER YEAR (12-MONTH ROLLING AVG BASIS)	11	lb/hr	6-HR ROLLING AVG (NO DUCT BURNING)	13.3	lb/hr	6-HR ROLLING AVG (W/ DUCT BURNING)	0		
CA-1211	COLUSA GENERATING STATION	3/11/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	172	MW	TWO (2) NATURAL GAS FIRED TURBINES AT 172 MW EACH. BOTH TURBINES EQUIPPED WITH A 688 MMBTU/HR DUCT BURNER AND HRSG.	USE NATURAL GAS	13.5	lb/hr	STACK TEST	0			0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	USE PUC QUALITY NATURAL GAS	0.0048	LB/MMBTU	9-HR AVG (NO DUCT BURNING)	0.0049	LB/MMBTU	9-HR AVG (W/ DUCT BURNING)	0		
CO-0056	ROCKY MOUNTAIN ENERGY CENTER, LLC	5/2/2006	NATURAL-GAS FIRED, COMBINED-CYCLE TURBINE	NATURAL GAS	300	MW	ONE NEW COMBINED-CYCLE TURBINE IS BEING ADDED TO AN EXISTING FACILITY.	NATURAL GAS QUALITY FUEL ONLY AND GOOD COMBUSTION CONTROL PRACTICES.	0.0074	LB/MMBTU		10	% OPACITY		0		
*CO-0073	PUEBLO AIRPORT GENERATING STATION	7/22/2010	Four combined cycle combution turbines	natural gas	373	mmbtu/hr	Three GE, LMS6000 PF, natural gas-fired, combined cycle CTG, rated at 373 MMBtu per hour each, based on HHV and one (1) HRSG each with no Duct Burners	Use of pipeline quality natural gas and good combustor design	4.3	lb/hr	AVE OVER STACK TEST LENGTH	0			0		

Table D-A-10
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0151	KLEEN ENERGY SYSTEMS, LLC	2/25/2008	SIEMENS SGT6-5000F COMBUSTION TURBINE #1 AND #2 (NATURAL GAS FIRED) WITH 445 MMBTU/HR NATURAL GAS DUCT BURNER	NATURAL GAS	2.1	MMCF/H	THROUGHPUT IS FOR TURBINE ONLY WHEN FIRING NATURAL GAS TURBINE: 2136 MMBTU/HR (2.095 MMCF/HR) DUCT BURNER: 445 MMBTU/HR (0.436 MMCF/HR) EMISSION RATES ARE FOR EACH COMBUSTION TURBINE FIRING NATURAL GAS, NOT COMBINED.		11	lb/hr	W/OUT DUCT BURNER	15.2	lb/hr	W/ DUCT BURNER	0		
FL-0265	HINES POWER BLOCK 4	6/8/2005	COMBINED CYCLE TURBINE	NATURAL GAS	530	MW		CLEAN FUELS	10	% OPACITY	6 MIM BLOCK AVERAGE	0			10	% OPACITY	
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	COMBUSTION TURBINE, COMBINED CYCLE W/ DUCT BURNER	NATURAL GAS (ONLY)	2375.28	MMBTU/H	SIEMENS SGT6-5000F COMBUSTION TURBINE (NGCT, CCGT) FOR ELECTRICAL GENERATION, NOMINAL 269 MW AND 2.1466 MMSCF/HR	GOOD COMBUSTION PRACTICES (GCP)	0		SEE NOTE	0			0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		0.012	LB/MMBTU	HOURLY AVERAGE	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1,350 MW.	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	18	lb/hr	3 HOURS	0.0078	LB/MMBTU	3 HOURS	0		
LA-0136	PLAQUEMINE COGENERATION FACILITY	7/23/2008	(4) GAS TURBINES/DUCT BURNERS	NATURAL GAS	2876	MMBTU/H	VISUAL INSPECTION FOR OPACITY ON A WEEKLY BASIS; STACK TESTS FOR PM, NOX, SO2, OPACITY, CO EMISSION POINTS GT-500, -600, -700, -800.	USE OF CLEAN BURNING FUELS	33.5	lb/hr	HOURLY MAXIMUM	139	T/YR	ANNUAL MAXIMUM	0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		USE OF CLEAN BURNING FUEL AND GOOD COMBUSTION PRACTICES	29.4	lb/hr	HOURLY MAXIMUM	128.8	T/YR	ANNUAL MAXIMUM	0		NOT AVAILABLE
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	WHILE FIRING NATURAL GAS: USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES WHILE FIRING FUEL OIL: USE OF ULTRA LOW SULFUR FUEL OIL AND GOOD COMBUSTION PRACTICES	26.23	lb/hr	HOURLY AVERAGE W/O DUCT BURNER	33.16	lb/hr	HOURLY AVERAGE W/ DUCT BURNER	0		
LA-0256	COGENERATION PLANT	12/6/2011	COGENERATION TRAINS 1-3 (1-10, 2-10, 3-10)	NATURAL GAS	475	MMBTU/H	EACH COGEN TRAIN CONSISTS OF A 50 MW GE LM6000 PF SPRINT TURBINE AND A HEAT RECOVERY STEAM GENERATOR EQUIPPED WITH A 70 MM BTU/HR DUCT BURNER.	USE OF NATURAL GAS AS FUEL AND GOOD COMBUSTION PRACTICES	3.72	lb/hr	HOURLY MAXIMUM	0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	USE OF PIPELINE-QUALITY NATURAL GAS EXCLUSIVELY AND GOOD COMBUSTION PRACTICE	0.011	LB/MMBTU	AVERAGE OF THREE STACK TEST RUNS	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITHOUT DUCT FIRING	NATURAL GAS	270	MW		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	25.1	lb/hr	AVERAGE OF 3 STACK TEST RUNS	0			0		
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		0.0066	LB/MMBTU	TEST	7.4	lb/hr	TEST	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.006	LB/MMBTU	EACH CTG; TEST PROTOCOL	0.012	LB/MMBTU	EACH CTG; TEST PROTOCOL	0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Combustion air filters; efficient combustion control; low sulfur natural gas fuel.	0.0066	LB/MMBTU	TEST PROTOCOL (3 1-H TESTS IF POSSIBLE)	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	FG-CTGHRSG: 2 Combined cycle CTGs with HRSGs with duct burners	natural gas	647	MMBTU/H for each CTGHRSG	This process is identified in the permit as FGCTGHRSG; it is 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSGs) equipped with duct burners for supplemental firing (EUCTGHRSG1 & EUCTGHRSG2 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. Each CTGHRSG shall not exceed 647 MMBtu/hr on a fuel heat input basis.	Good combustion practices and the use of pipeline quality natural gas.	0.014	LB/MMBTU	TEST PROTOCOL	0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.	USE OF ONLY CLEAN-BURNING LOW-SULFUR FUELS AND GOOD COMBUSTION PRACTICES.	0.019	LB/MMBTU	based on 3-hour average	0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		CLEAN FUELS - NATURAL GAS AND ULTRA LOW SULFUR (15PPM SULFUR) DISTILLATE OIL	18.66	lb/hr		0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Combined Cycle Combustion Turbine -Siemens turbine without Duct Burner	Natural gas	33691	MMCubic ft/yr	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each Siemens combustion turbine will be 2,356 MMBtu/hr(HHV)	USE OF NATURAL GAS A CLEAN BURNING FUEL	13	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		

Table D-A-10
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITHOUT DUCT BURNER - GENERAL ELECTRIC	Natural Gas	33691	MMCF/YR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion turbine will be 2,312 MMBtu/hr(HHV)	Use of Natural Gas as a clean burning fuel	12.7	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine without Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burner.	Use of natural gas a clean burning fuel	10	lb/hr	AVERAGE OF THREE ONE HOUR STACK TESTS	0			0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	LOW SULFUR FUEL	0.0055	LB/MMBTU	NO DUCT BURNING	0.0066	LB/MMBTU	W/DUCT BURNING	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	clean burning fuel, only natural gas	13.3	lb/hr		61.3	T/YR	PER ROLLING 12-MONTHS	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, without duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	clean burning fuel, only natural gas	11.3	lb/hr		44.2	T/YR	PER ROLLING 12-MONTHS	0		
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners Off	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners off. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Burning natural gas in an efficient combustion turbine	15	lb/hr		87.2	T/YR	PER ROLLING 12 MONTHS	0		
OK-0117	PSO SOUTHWESTERN POWER PLT	2/9/2007	GAS-FIRED TURBINES					USE OF LOW ASH FUEL (NATURAL GAS) AND EFFICIENT COMBUSTION	0.0093	LB/MMBTU		0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	NATURAL GAS FUEL	6.59	lb/hr	3-H AVG	0.0035	LB/MMBTU	24-H AVG	0		
OR-0048	CARTY PLANT	12/29/2010	COMBINED CYCLE NATURAL GAS-FIRED ELECTRIC GENERATING UNIT	NATURAL GAS	2866	MMBTU/H		CLEAN FUEL	2.5	LB/MMCF		0.0083	LB/MMBTU		0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.		0.0057	LB/MMBTU		54	T/YR	TOTAL PM	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		48.56	T/YR	12-MONTH ROLLING TOTAL	10	lb/hr		0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	use of low ash fuel (natural gas or low sulfur diesel as a backup)	11.1	lb/hr		19.8	lb/hr		0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	good combustion and the use of gaseous fuel	27	lb/hr		0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour	good combustion and the use of natural gas	27	lb/hr		0			0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.	good combustion and natural gas as fuel	18	lb/hr	PER TURBINE	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	43	lb/hr		0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner		35.47	lb/hr		81.88	T/YR		0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	Good combustion practices and use of pipeline quality natural gas	16	lb/hr		109.5	T/YR		0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Natural Gas only, fuel has maximum sulfur content of 0.0003% by weight.	8	lb/hr	3 HR AVG. (WITHOUT DUCT BURNER FIRING)	14	lb/hr	3 HR. AVG. (WITH DUCT BURNER FIRING)	0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	COMBUSTION TURBINES, (2)	Natural Gas	593	MMBTU/H	Burns primarily natural gas but has the capacity to burn up to 500 hours of ultra low sulfur diesel fuel (ULSD) as backup.	Clean-burning fuels and good combustion practices.	5	lb/hr	3 H AVG	0			0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur/carbon fuel and good combustion practices.	0.0033	LB/MMBTU	3 H AVG/WITHOUT DUCT BURNING	9.7	lb/hr	3 H AVG/WITHOUT DUCT BURNING	0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LIMIT FUEL TYPE TO NATURAL GAS	17	lb/hr		0			0		*SEE NOTES
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	12	lb/hr	12-MONTH ROLLING AVG (NO DUCT BURNING)	0			0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Fuel Usage Restriction to natural gas and low sulfur distillate oil	120.4	T/YR	12 MONTH ROLLING AVERAGE	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.		0.01	LB/MMBTU	AVG. OF 3 ONE HOUR TEST RUNS	77.1	T/YR	12-MONTH ROLLING	0		

Table D-A-10
Particulate Matter 10 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	2.08	lb/hr	HOURLY MAXIMUM	0			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,257 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.006	LB/MMBTU	EACH CTG; TEST PROTOCOL	0			0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	use low ash fuel (natural gas or low sulfur diesel as a backup) and good combustion practices	11.1	lb/hr		19.8	lb/hr		0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.	good combustion and natural gas as fuel	18	lb/hr	PER TURBINE	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	43	lb/hr		0			0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur/carbon fuel and good combustion practices.	0.0033	LB/MMBTU	3 H AVG/WITHOUT DUCT BURNING	9.7	lb/hr	3 H AVG/WITHOUT DUCT BURNING	0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP01)	Natural Gas	40	MW		good combustion practices	4	lb/hr	3-HOUR AVERAGE	17.5	T/YR	CALENDAR YEAR	0		
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Clean Fuel	0.0098	LB/MMBTU	1-hr average; Duct Burners Off	12.9	lb/hr	1-hr average; Duct Burners Off			
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			0.0048	LB/MMBTU	24-hr average						
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2542	MMBtu/hr			0.004	LB/MMBTU		9.8	lb/hr				
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			7.5	lb/hr		0.0036	lb/MMBtu				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			11.8	lb/hr		0.0039	lb/MMBtu				
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.0141	LB/MMBTU							
	Hawkeye Generating, LLC			Natural Gas	615	MW			0.011	LB/MMBTU		211.86	T/YR				
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			4.5	lb/hr							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			11	lb/hr							
	York Energy Center Block 1				1574	MMBtu/hr			0.0141	LB/MMBTU	hourly basis						
	Liberty Electric Power, LLC				1954	MMBtu/hr			0.0141	LB/MMBTU							
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	8.8	lb/hr	1-hr average; Duct Burners Off	0.0071	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	0.041	lb/MW-hr	1-hr average; Duct Burners Off						
	PacifiCorp Energy		Block 1 CT	Natural Gas					10.8	lb/hr	30-day rolling average						
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			14	lb/hr	30-day rolling average						
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,307	MMBtu/hr			12.1	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			17.3	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			14	lb/hr							
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW		Combusting commercially available, pipeline natural gas in the turbines and duct burners	0.006	LB/MMBTU	1-hr average						
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			28.9	lb/hr		0.0088	lb/MMBtu	24-hr average			
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		10.7	lb/hr	average of 3 test runs						

Table D-A-11
Particulate Matter 2.5 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/Duct Firing	Natural Gas	2639	MMBtu/hr	Duct burner MRC is 946 MMbtu/hr	Good Combustion	0.005	LB/MMBTU		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1A	Natural Gas	3625	MMBTU/hr		Good combustion practices and clean burning fuels (natural gas)	17.52	LB/H	HOURLY MAXIMUM	73.35	T/YR	ANNUAL MAXIMUM	0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1B	Natural Gas	3625	MMBTU/hr		Good combustion practices and clean burning fuel (natural gas)	17.52	LB/H	HOURLY MAXIMUM	73.35	T/YR	ANNUAL MAXIMUM	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGCTGHRSG (2 Combined Cycle	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 &	Good Combustion Practices, inlet air conditioning, and the use of pipeline	19.8	LB/H	TEST PROTOCOL	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH	12/5/2016	FGCTGHRSG (2 Combined cycle	Natural gas	554	MMBTU/H, each	Two combined cycle natural gas fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in	Good combustion practices and the use of pipeline quality natural gas.	0.014	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3 (3 combined cycle	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped	Use clean fuel (natural gas) and good combustion practices.	10.7	LB/H	HOURLY; EACH CT/HRSG TRAIN	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (South Plant): A	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine	Good combustion practices, inlet air conditioning, and the use of pipeline	19.1	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (North Plant): A	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV).	Good combustion practices, inlet air conditioning, and the use of pipeline	19.1	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG).	Good combustion practices, inlet air conditioning and the use of pipeline	16	LB/H	HOURLY; EACH UNIT	12.2	LB/H	HOURLY; EACH UNIT W/O DUCT	0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine	natural gas	4000	lb/yr		COMPLIANCE BY STACK TESTING	18.3	LB/H	AV OF THREE ONE H STACK	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine	Natural Gas	8040	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL	11.7	LB/H	AV OF THREE ONE H STACK	0			0		
*PA-0306	TENASKA PA PARTNERS/WESTMORELA	2/12/2016	Large combustion turbine	Natural Gas	0		This process entry is for operations with the duct burner. Limits entered are for each turbine.	Good combustion practices	0.0039	LB/MMBTU		11.8	LB/HR		0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG with duct	Natural Gas	3338	MMBtu/hr	Emission limits are for each turbine operating with duct burner and do not include startup/shutdown emissions. Tons per year limits is a cumulative value for all three	Low sulfur fuel, good combustion practices	0.005	LB/MMBTU		131.5	TONS	12-MONTH ROLLING BASIS	0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG without	Natural gas	0		Emission limits are for each turbine fueled by NG and operating without duct burner being fired and do not include startup/shutdown emissions.	Low sulfur fuels and good combustion practices	0.0068	LB/MMBTU		0			0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Pipeline quality natural gas; good combustion practices	0			0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	COMBUSTION TURBINE	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Pipeline Quality Natural Gas	0.0039	LB/MMBTU	AVG OF 3 TEST RUNS	14.1	LB/H		0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	GE LM6000PF-25 Turbines (4)	Natural Gas	59900	hp ISO	Turbine-duct burner pairs exhaust through common stack	Good Combustion Practices	0.0066	LB/MMBTU	3-HOUR AVERAGE	0			0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	GE LM6000PF-25 Turbines (4)	Natural Gas	59900	hp ISO	Turbine-duct burner pairs exhaust through common stack	Good Combustion Practices	0.0066	LB/MMBTU	3-HOUR AVERAGE	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	18	lb/hr	12-MONTH ROLLING AVG (W/ DUCT BURNING)	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #1 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	USE PUC QUALITY NATURAL GAS	18	lb/hr	12-MONTH ROLLING AVG (W/ DUCT BURNING)	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #2 (NORMAL OPERATION, WITH DUCT BURNING)	NATURAL GAS	180	MW		USE PUC QUALITY NATURAL GAS	11.78	lb/hr	12-MONTH ROLLING AVG	0			0		
CA-1198	MORRO BAY POWER PLANT	9/25/2008	COMBUSTION TURBINE GENERATOR	NATURAL GAS	180	MW		USE PIPELINE QUALITY NATURAL GAS, OPERATE DUCT BURNERS NO MORE THAN 4000 HRS PER YEAR (12-MONTH ROLLING AVG BASIS)	11	lb/hr	6-HR ROLLING AVG (NO DUCT BURNING)	13.3	lb/hr	6-HR ROLLING AVG (W/ DUCT BURNING)	0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION)	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	USE PUC QUALITY NATURAL GAS	0.0048	LB/MMBTU	9-HR AVG (NO DUCT BURNING)	0.0049	LB/MMBTU	9-HR AVG (W/ DUCT BURNING)	0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Fuel Usage Restriction to natural gas and low sulfur distillate oil	120.4	TONS/Y	12 MONTH ROLLING AVERAGE	0			0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		0.006	LB/MMBTU	HOURLY AVERAGE	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	GOOD COMBUSTION PRACTICE AND FUEL SPECIFICATION	18	lb/hr	3 HOURS	0.0078	LB/MMBTU	3 HOURS	0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	TURBINES ALSO PERMITTED TO BURN NO. 2 FUEL OIL AND ULTRA LOW SULFUR DIESEL. FUEL OIL USE IS LIMITED TO 1000 HOURS PER YEAR.	WHILE FIRING NATURAL GAS: USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES WHILE FIRING FUEL OIL: USE OF ULTRA LOW SULFUR FUEL OIL AND GOOD COMBUSTION PRACTICES	26.23	lb/hr	HOURLY AVERAGE W/O DUCT BURNER	33.16	lb/hr	HOURLY AVERAGE W/ DUCT BURNER	0		
LA-0256	COGENERATION PLANT	12/6/2011	COGENERATION TRAINS 1-3 (1-10, 2-10, 3-10)	NATURAL GAS	475	MMBTU/H	EACH COGEN TRAIN CONSISTS OF A 50 MW GE LM6000 PF SPRINT TURBINE AND A HEAT RECOVERY STEAM GENERATOR EQUIPPED WITH A 70 MM BTU/HR DUCT BURNER.	USE OF NATURAL GAS AS FUEL AND GOOD COMBUSTION PRACTICES	3.72	lb/hr	HOURLY MAXIMUM	0			0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	2.08	lb/hr	HOURLY MAXIMUM	0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Combustion Turbine with Duct Burner	Natural Gas	2449	MMBtu/hr	two 315 MW (nominal) GE Energy 7F Series 5 Rapid Response Combined Cycle Combustion Turbines with Duct Burners and 31 MW (estimated) steam turbine generators		0.0062	LB/MMBTU	1 HR AVG/DO NOT APPLY DURING SS	13	lb/hr	1 HR AVG/DO NOT APPLY DURING SS	0		

Table D-A-11
Particulate Matter 2.5 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	38	lb/hr	AVERAGE OF 3 STACK TEST RUNS	0			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is eqqpped with a dry low NOx (DLN) burner and a seletive catalytic reduction (SCR) system.	Good combustion practices	0.006	LB/MMBTU	EACH CTG; TEST PROTOCOL	0.012	LB/MMBTU	EACH CTG; TEST PROTOCOL	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Good combustion practices	0.008	LB/MMBTU	TEST PROTOCOL	19.9	lb/hr	TEST PROTOCOL	0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.	Combustion air filters, efficient combustion control, low sulfur natural gas fuel.	0.0066	LB/MMBTU	TEST PROTOCOL (3 1-H TESTS IF POSSIBLE)	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	FG-CTGHRSG: 2 Combined cycle CTGs with HRSGs with duct burners	natural gas	647	MMBTU/H for each CTGHRSG	This process is identified in the permit as FGCTGHRSG; it is 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSGs) equipped with duct burners for supplemental firing (EUCTGHRSG1 & EUCTGHRSG2 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. Each CTGHRSG shall not exceed 647 MMBtu/hr on a fuel heat input basis.	Good combustion practices and the use of pipeline quality natural gas.	0.014	LB/MMBTU	TEST PROTOCOL	0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		USE OF CLEAN FUELS, NATURAL GAS AND ULTRA LOW SULFUR DISTILLATE OIL	18.66	lb/hr		0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Use of natural gas a clean burning fuel	14	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	Use of natural gas only as a clean burning fuel	14.6	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	Use of Natural Gas a clean burning fuel	9.8	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Use of Natural Gas a clean burning fuel	21.55	lb/hr	AVERAGE OF THREE STACK TEST RUNS	0.0069	LB/MMBTU	AVERAGE OF THREE STACK TEST RUNS	0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Using fuel with little or no ash and sulfur content.	0.004	LB/MMBTU	FOR 468 MW POWERBLOCK	0.0057	LB/MMBTU	FOR 454 MW POWERBLOCK	0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.		0.0057	LB/MMBTU		54	T/YR	TOTAL PM FOR EACH UNIT	0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	Combined Cycle Combustion Turbine AND DUCT BURNER (3)	Natural Gas	2538000	MMBTU/H	Three powerblocks consisting of three (3) natural gas fired F class combustion turbines coupled with three (3) heat recovery steam generators (HSRGs) equipped with natural gas fired duct burners.		0.0088	LB/MMBTU		0			0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		48.56	TPY	12-MONTH ROLLING TOTAL	21.55	lb/hr		0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	use of low ash fuel (natural gas or low sulfur diesel as a backup)	11.1	lb/hr		19.8	lb/hr		0		
TX-0618	CHANNEL ENERGY CENTER LLC	10/15/2012	Combined Cycle Turbine	natural gas	180	MW	The turbine is a Siemens 501F rated at a nominal 180 MW and the duct burner will have a maximum design heat input of 475 MMBtu/hr.	good combustion and the use of gaseous fuel	27	lb/hr		0			0		
TX-0619	DEER PARK ENERGY CENTER	9/26/2012	Combined Cycle Turbine	natural gas	180	MW	natural gas-fired combined cycle turbine generator with a heat recovery steam generator equipped with a duct burner. The turbine is a Siemens 501F rated at a nominal 180 megawatts and the DB will have a maximum design rate capability of 725 million British thermal units per hour		27	lb/hr		0			0		

Table D-A-11
Particulate Matter 2.5 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0641	PINECREST ENERGY CENTER	11/12/2013	combined cycle turbine	natural gas	700	MW	The generating equipment consists of two natural gas-fired combustion turbines (CTs), each exhausting to a fired heat recovery steam generator (HRSG) to produce steam to drive a shared steam turbine generator. The steam turbine is rated at 271 MW of electric output. Three models of combustion turbines are being considered for this site: the General Electric 7FA.05, the Siemens SGT6-5000F(4), and the Siemens SGT6-5000F(5). The final selection of the combustion turbine will not be made until after the permit is issued. Plant output will range between 637 and 735 MW, depending on the model turbine selected. Duct Burners are rated at 750 MMBtu/hr each.	pipeline quality natural gas and good combustion practices	26.2	lb/hr		0			0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Low sulfur fuel, good combustion practices	2	PPMVD		0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.		15.22	lb/hr		0			0		
*TX-0689	CEDAR BAYOU ELECTRIC GENERATION STATION	8/29/2014	Combined cycle natural gas turbines	Natural Gas	225	MW		Good combustion practices, natural gas	0			0			0		
*TX-0698	BAYPORT COMPLEX	9/5/2013	(4) cogeneration turbines	natural gas	90	MW	(4) GE 7EA turbines providing power and process steam		0			0			0		
*TX-0708	LA PALOMA ENERGY CENTER	2/7/2013	(2) combined cycle turbines	natural gas	650	MW	The specific equipment includes two combustion turbines (CTs) connected to electric generators, producing between 183 and 232 MW of electricity, depending on ambient temperature and the selected CT. The two HRSGs use duct burners rated at 750 MMBtu/hr each to supplement the heat energy from the CTs. The steam from the two HRSGs is combined and routed to a single steam turbine driving a third electric generator with an electricity output capacity of 271 MW. Depending on the selected CT, total plant output at 59Â°F is between 637 MW and 735 MW. The applicant is considering three models of CT; one model will be selected and the permit revised to reflect the selection before construction begins. The three CT models are: (1) General Electric 7FA.04; (2) Siemens SGT6-5000F(4); or (3) Siemens SGT6-5000F(5).		0			0			0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW			0			0			0		
*TX-0710	VICTORIA POWER STATION	12/1/2014	combined cycle turbine	natural gas	197	MW	General Electric 7FA.04 at 197 MW nominal ouput. The duct burners will be capable of a maximum natural gas firing rate of up to 483 MMBtu/hr (HHV). The duct burners may be fired additional hours; however, total annual firing will not exceed the equivalent of 4,375 hours at maximum capacity per duct burner. The available capacity of the existing steam turbine will be increased from 125 MW in its existing 1x1x1 configuration to approximately 185 MW in the 2x2x1 configuration.		0			0			0		
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.		0			0			0		
*TX-0713	TENASKA BROWNSVILLE GENERATING STATION	4/29/2014	(2) combined cycle turbines	natural gas	274	MW	Each CTG is site-rated at 274 MW gross electric output at 62Â°F ambient temperature. At this condition, two HRSGs with full duct burner firing produce enough steam to generate an additional 336 MW, for a total of 884 MW gross, or with about 5% losses, about 840 MW net electric output. Under summertime conditions, the net output is approximately 800 MW with the 2x1 CCGT configuration or about 400 MW with the 1x1 CCGT configuration.		0			0			0		
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	(2) combined cycle turbines	natural gas	240	MW	The gas turbines will be one of three options: (1) Two Siemens Model F5 (SF5) CTGs each rated at nominal capability of 225 megawatts (MW). Each CTG will have a duct fired HRSG with a maximum heat input of 688 million British thermal units per hour (MMBtu/hr). (2) Two General Electric Model 7FA (GE7FA) CTGs each rated at nominal capability of 215 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 523 MMBtu/hr. (3) Two Mitsubishi Heavy Industry G Frame (MHI501G) CTGs each rated at a nominal electric output of 263 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 686 MMBtu/hr.		0			0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	43	lb/hr		0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner		35.47	lb/hr		81.88	T/YR		0		
*TX-0767	LON C. HILL POWER STATION	10/2/2015	Combined Cycle Turbines (>25 MW)	natural gas	195	MW	Two power configuration options authorized Siemens â€“ 240 MW + 250 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 195 MW + 670 MMBtu/hr duct burner	Good combustion practices and use of pipeline quality natural gas	16	lb/hr		109.5	TPY		0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Natural Gas only, fuel has maximum sulfur content of 0.0003% by weight.	8	lb/hr	3 HR AVG. (WITHOUT DUCT BURNER FIRING)	14	lb/hr	3 HR. AVG. (WITH DUCT BURNER FIRING)	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur/carbon fuel and good combustion practices.	0.0047	LB/MMBTU	3 H AVG/WITH DUCT BURNING	9.7	lb/hr	3 H AVG/WITHOUT DUCT BURNING	16.3	3 H AVG/WITH DUCT BURNING	
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Combined Cycle Turbine/Duct Burner	Natural Gas	2419.61	mmBtu/Hr	This entry is for both of two identical units at the facility. Nominal 197 mW General Electric Frame 7FA.04 Turbine w/ Duct Burner - throughput denotes aggregate heat input of turbine and duct burner (HHV).	Good Combustion Practices, Inlet Air Filtration, & use of Natural Gas	8.9	lb/hr		0.0037	LB/MMBTU		0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP02)	Natural Gas	40	MW		good combustion practices	4	lb/hr	3-HOUR AVERAGE	17.5	TONS	CALENDAR YEAR	0		
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	13	lb/hr	1-hr average; Duct Burners On	0.0062	lb/MMBtu	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	0.041	lb/MW-hr	1-hr average; Duct Burners On						
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			17.1	lb/hr	3-hr average	0.0068	lb/MMBtu	3-hr average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			70	tpy	12-mo rolling						

Table D-A-11
Particulate Matter 2.5 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	GenConn Middletown LLC		Combustion Turbine	Natural Gas	474.9	MMBtu/hr			6	lb/hr							
	PacifiCorp Energy		Block 1 CT	Natural Gas					10.8	lb/hr	30-day rolling average						
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			14	lb/hr	30-day rolling average						
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			0.004	lb/MMBtu							
	Sevier Power Company Power Plant		Combustion Turbine	Natural Gas	580	MW			14	lb/hr	30-day rolling average						
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2807	MMBtu/hr			19.1	lb/hr	(With DB)						
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			191.1	tpy							
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			28.9	lb/hr		0.0088	lb/MMBtu	24-hr average			
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			11.8	lb/hr		0.0039	lb/MMBtu				
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.0141	lb/MMBtu							
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			9.5	lb/hr							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2266	MMBtu/hr			13.2	lb/hr							
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		18.4	lb/hr	average of 3 test runs						
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	each of the combustion turbines with duct burners		0.0066	lb/MMBtu	combustion turbines with duct burners						

Table D-A-12
Particulate Matter 2.5 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/o Duct Firing	Natural Gas	2969	MMBtu/hr	Throughput is for turbine only	Good Combustion	0.0044	LB/MMBTU		0			0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating unit	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas. Permitted to burn the base-load equivalent of 500 hr/yr per turbine on ULSD.	Use of clean fuels	2	GR. S/100 SCF GAS	FOR NATURAL GAS	0.0015	% S IN ULSD	FOR ULSD	0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	2-on-1 combined cycle unit (GE 7HA)	Natural gas	4000	MMBtu/hr	Two nominal 430 MW combustion turbines, coupled to a steam turbine generator	Clean fuels	0			0			0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Combined cycle CTG with unfired HRSG)	Natural gas	1934.7	MMBTU/H	A 1,934.7 MMBTU/H natural gas fired heavy frame industrial combustion turbine. The turbine operates in combined-cycle with an unfired heat recovery steam generator (HRSG).	Good combustion practices and the use of pipeline quality natural gas, combustion inlet air filter.	0.0066	LB/MMBTU		0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Good combustion practices, inlet air conditioning and the use of pipeline quality natural gas.	16	LB/H	HOURLY; EACH UNIT	12.2	LB/H	HOURLY; EACH UNIT W/O DUCT BURNER FIRING	0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE) Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES AND LOW SULFUR FUEL	19.35	LB/H		0			0		
TX-0789	DECORDOVA STEAM ELECTRIC STATION	3/8/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE). Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES AND LOW SULFUR FUEL	35.47	LB/H		0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Refrigeration Compression Turbines	natural gas	10	M TONNES/YR	Four GE Frame 7E gas turbines for refrigeration and compression at the site		11.07	LB/H		42.15	T/YR		0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Simple Cycle Electrical Generation Gas Turbines 15.210	natural gas	34	MW	Nine GE PGT25+G4 gas turbines for electrical generation at the site at 34 MW/turbine	Equipment specifications & work practices - Good combustion practices and use of low carbon, low sulfur fuel	2.32	LB/H		8.84	T/YR		0		
TX-0817	CHOCOLATE BAYOU STEAM GENERATING (CBSG) STATION	2/17/2017	Combined Cycle Cogeneration	NATURAL GAS	50	MW	2 UNITS EACH 50 MW GE LM6000		6.98	LB/H		0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	Combined Cycle Turbine	NATURAL GAS	2635	MMBTU/HR/UNIT	Two Mitsubishi M501GAC turbines (without fast start)	PIPELINE NATURAL GAS, GOOD COMBUSTION	125.7	TON/YR		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	COMBUSTION TURBINE GENERATOR WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATORS (3)	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Pipeline Quality Natural Gas	0.0039	LB/MMBTU	AVG OF 3 TEST RUNS	14.1	LB/H		0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #2 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	12	lb/hr	12-MONTH ROLLING AVG (NO DUCT BURNING)	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	Natural Gas	154	MW	154 MW Combined Cycle Combustion Turbine Generator	PUC QUALITY NATURAL GAS	12	lb/hr	12-MONTH ROLLING AVG (NO DUCT BURNING)	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	COMBUSTION TURBINE #1 (NORMAL OPERATION, NO DUCT BURNING)	NATURAL GAS	180	MW	USE PUC QUALITY NATURAL GAS	8.91	lb/hr	12-MONTH ROLLING AVG	0			0		
CA-1198	MORRO BAY POWER PLANT	9/25/2008	COMBUSTION TURBINE GENERATOR	NATURAL GAS	180	MW	USE PIPELINE QUALITY NATURAL GAS, OPERATE DUCT BURNERS NO MORE THAN 4000 HRS PER YEAR (12-MONTH ROLLING AVG BASIS)	11	lb/hr	6-HR ROLLING AVG (NO DUCT BURNING)	13.3	lb/hr	6-HR ROLLING AVG (W/ DUCT BURNING)	0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	COMBUSTION TURBINES (NORMAL OPERATION).	NATURAL GAS	154	MW	TWO NATURAL GAS-FIRED COMBUSTION TURBINE-GENERATORS (CTGS) RATED AT 154 MEGAWATT (MW, GROSS) EACH, TWO HEAT RECOVERY STEAM GENERATORS (HRSG), ONE STEAM TURBINE GENERATOR (STG) RATED AT 267 MW, AND 251 ACRES OF PARABOLIC SOLAR-THERMAL COLLECTORS WITH ASSOCIATED HEAT-TRANSFER EQUIPMENT	USE PUC QUALITY NATURAL GAS	0.0048	LB/MMBTU	9-HR AVG (NO DUCT BURNING)	0.0049	LB/MMBTU	9-HR AVG (W/ DUCT BURNING)	0		
*CO-0073	PUEBLO AIRPORT GENERATING STATION	7/22/2010	Four combined cycle combution turbines	natural gas	373	mmbtu/hr	Three GE, LMS6000 PF, natural gas-fired, combined cycle CTG, rated at 373 MMBtu per hour each, based on HHV and one (1) HRSG each with no Duct Burners	Use of pipeline quality natural gas and good combustor design	4.3	lb/hr	AVE OVER STACK TEST LENGTH	0			0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Fuel Usage Restriction to natural gas and low sulfur distillate oil	120.4	TONS	12 MONTH ROLLING AVERAGE	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.		0.01	LB/MMBTU	AVG. OF 3 ONE HOUR TEST RUNS	77.1	TON/YR	12-MONTH ROLLING	0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr			0.01	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	77.1	TON/YR	12-MONTH ROLLING TOTAL	0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	COMBINED CYCLE TURBINE GENERATORS (UNITS 6A & 6B)	NATURAL GAS	7146	MMBTU/H	TURBINES ALSO PERMITTED TO BURN NO. 2 FUEL OIL AND ULTRA LOW SULFUR DIESEL. FUEL OIL USE IS LIMITED TO 1000 HOURS PER YEAR.	WHILE FIRING NATURAL GAS: USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES WHILE FIRING FUEL OIL: USE OF ULTRA LOW SULFUR FUEL OIL AND GOOD COMBUSTION PRACTICES	26.23	lb/hr	HOURLY AVERAGE W/O DUCT BURNER	33.16	lb/hr	HOURLY AVERAGE W/ DUCT BURNER	0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion practices and fueled by natural gas	2.08	lb/hr	HOURLY MAXIMUM	0			0		
LA-0256	COGENERATION PLANT	12/6/2011	COGENERATION TRAINS 1-3 (1-10, 2-10, 3-10)	NATURAL GAS	475	MMBTU/H	EACH COGEN TRAIN CONSISTS OF A 50 MW GE LM6000 PF SPRINT TURBINE AND A HEAT RECOVERY STEAM GENERATOR EQUIPPED WITH A 70 MM BTU/HR DUCT BURNER.	USE OF NATURAL GAS AS FUEL AND GOOD COMBUSTION PRACTICES	3.72	lb/hr	HOURLY MAXIMUM	0			0		

Table D-A-12
Particulate Matter 2.5 microns(PM) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITHOUT DUCT FIRING	NATURAL GAS	270	MW		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	25.1	lb/hr	AVERAGE OF 3 STACK TEST RUNS	0			0		
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		0.0066	LB/MMBTU	TEST	7.4	lb/hr	TEST	0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices	0.006	LB/MMBTU	EACH CTG; TEST PROTOCOL (PM only)	0.012	LB/MMBTU	EACH CTG; TEST PROTOCOL	0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		USE OF CLEAN FUELS, NATURAL GAS AND ULTRA LOW SULFUR DISTILLATE OIL	18.66	lb/hr		0			0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.		48.56	TPY	12-MONTH ROLLING TOTAL	10	lb/hr		0		
TX-0590	KING POWER STATION	8/5/2010	Turbine	natural gas	1350	MW	The plant will be designed to generate 1,350 nominal megawatts of power. There are two configuration scenarios: either four Siemens SGT6-5000F CTGs in combined-cycle mode (Scenario A) or four GE Frame 7FA CTGs in combined cycle mode (Scenario B). Scenario B also includes one or two auxiliary boilers.	use low ash fuel (natural gas or low sulfur diesel as a backup) and good combustion practices	11.1	lb/hr		19.8	lb/hr		0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	pipeline quality natural gas	33.43	lb/hr	1-H	0			0		
TX-0620	ES JOSLIN POWER PLANT	9/12/2012	Combined cycle gas turbine	natural gas	195	MW	The three combustion turbine generators (CTG) will be the General Electric 7FA, each with a maximum base-load electric power output of approximately 195 megawatts (MW). The steam turbine is rated at approximately 235 MW. This project also includes the installation of two emergency generators, one fire water pump, and auxiliary equipment. No duct burners.		18	lb/hr	PER TURBINE	0			0		
*TX-0660	FGE TEXAS POWER I AND FGE TEXAS POWER II	3/24/2014	Alstom Turbine	Natural Gas	230.7	MW	Four (4) Alstom GT24 CTGs, each with a HRSG and DBs, max design capacity 409 MMBtu/hr	Low sulfur fuel, good combustion practices	2	PPMVD		0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.		15.22	lb/hr		0			0		
*TX-0689	CEDAR BAYOU ELECTRIC GENERATION STATION	8/29/2014	Combined cycle natural gas turbines	Natural Gas	225	MW		Good combustion practices, natural gas	0			0			0		
*TX-0698	BAYPORT COMPLEX	9/5/2013	(4) cogeneration turbines	natural gas	90	MW	(4) GE 7EA turbines providing power and process steam		0			0			0		
*TX-0709	SAND HILL ENERGY CENTER	9/13/2013	Natural gas-fired combined cycle turbines	Natural Gas	173.9	MW			0			0			0		
*TX-0712	TRINIDAD GENERATING FACILITY	11/20/2014	combined cycle turbine	natural gas	497	MW	The facility will consist of a Mitsubishi Heavy Industries (MHI) J model gas fired combustion turbine nominally rated at 497 megawatts (MW) equipped with a HRSG and DB with a maximum design capacity of 402 million British thermal units per hour (MMBtu/hr). The gross nominal output of the CTG with HRSG and DB is 530 MW.		0			0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	43	lb/hr		0			0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Natural Gas only, fuel has maximum sulfur content of 0.0003% by weight.	8	lb/hr	3 HR AVG. (WITHOUT DUCT BURNER FIRING)	14	lb/hr	3 HR. AVG. (WITH DUCT BURNER FIRING)	0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	COMBUSTION TURBINES, (2)	Natural Gas	593	MMBTU/H	Burns primarily natural gas but has the capacity to burn up to 500 hours of ultra low sulfur diesel fuel (ULSD) as backup.	Clean burning fuels and good combustion practices.	5	lb/hr	3 H AVG	0			0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur/carbon fuel and good combustion practices.	0.0033	LB/MMBTU	3 H AVG/WITHOUT DUCT BURNING	9.7	lb/hr	3 H AVG/WITHOUT DUCT BURNING	0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Combined Cycle Turbine (EP02)	Natural Gas	40	MW		good combustion practices	4	lb/hr	3-HOUR AVERAGE	17.5	TONS	CALENDAR YEAR	0		
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	8.8	lb/hr	1-hr average; Duct Burners Off	0.0071	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Clean Fuel	0.041	lb/MW-hr	1-hr average; Duct Burners Off						
	PacifiCorp Energy		Block 1 CT	Natural Gas					10.8	lb/hr	30-day rolling average						
	PacifiCorp Energy		Block 2 CT	Natural Gas	629	MW			14	lb/hr	30-day rolling average						
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			0.004	lb/MMBtu							
	Woodbridge Energy Center (CPV Shore, LLC)			Natural Gas	2,307	MMBtu/hr			12.1	lb/hr							
	Hummel Station LLC		Combustion Turbine	Natural Gas	2,254.00	MMBtu/hr			14	lb/hr							
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW		Combusting commercially available, pipeline natural gas in the turbines and duct burners	0.006	lb/MMBtu	1-hr average						
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			0.0088	lb/MMBtu	24-hr average						
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2542	MMBtu/hr			0.004	lb/MMBtu		9.8	lb/hr				
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			7.5	lb/hr		0.0036	lb/MMBtu				
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			11.8	lb/hr		0.0039	lb/MMBtu				
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.0141	lb/MMBtu							
	Huntington Beach Energy Project			Natural Gas	939	MW (net)			4.5	lb/hr							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			11	lb/hr							
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		10.7	lb/hr	average of 3 test runs						

Table D-A-13
Sulfur Dioxide (SO2) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0263	FPL TURKEY POINT POWER PLANT	2/8/2005	170 MW COMBUSTION TURBINE, 4 UNITS	NATURAL GAS	170	MW	GENERATING CAPACITY: EACH OF THE FOUR GAS TURBINES HAS A NOMINAL GENERATING CAPACITY OF 170 MW FOR GAS FIRING (180 MW FOR OIL FIRING). EACH OF THE FOUR HEAT RECOVERY STEAM GENERATORS (HRSGS) PROVIDES STEAM TO THE SINGLE STEAM TURBINE ELECTRICAL GENERATOR, WHICH HAS A NOMINAL CAPACITY OF 470 MW. THE TOTAL NOMINAL GENERATING CAPACITY OF THE 4-ON-1 COMBINED CYCLE UNIT IS 1150 MW. FUELS: EACH GAS TURBINE WILL FIRE NATURAL GAS AS THE PRIMARY FUEL AND ULTRA LOW SULFUR (0.0015% SULFUR) DISTILLATE OIL AS A RESTRICTED ALTERNATE FUEL. EMISSIONS OF ALL POLLUTANTS INCREASE WITH THE FIRING OF OIL. THE APPLICANT REQUESTS 500 HOURS PER YEAR PER GAS TURBINE (OR EQUIVALENT) FOR OIL FIRING. MODES OF OPERATION: STANDARD NORMAL OPERATION, WITH DUCT BURNER, POWER AUGMENTATION AND PEAKING.	EMISSIONS OF SAM AND SO2 WILL BE MINIMIZED BY FIRING NATURAL GAS AND RESTRICTING THE AMOUNTS OF ULTRA LOW SULFUR DISTILLATE OIL.	2	GR S/100 SCF GAS		0.0015	% S		0		NOT AVAILABLE
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	COMBINED CYCLE COMBUSTION TURBINE SYSTEM (4-ON-1)	NATURAL GAS	1972	MMBTU/H	1876 MMBTU/HR WHEN FIRING DISTILLATE FUEL OIL. THE SYSTEM NOMINAL CAPACITY 1280 MW. EACH UNIT NOMINAL CAPACITY 215 MW (ISO) WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATOR.		2	GR S/100 SCF GAS	NATURAL GAS	0.05	% S	FUEL OIL BY WEIGHT	0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	COMBINED CYCLE COMBUSTION GAS TURBINES - 6 UNITS	NATURAL GAS	2333	MMBTU/H	2117 MMBTU/HR FUEL OIL. EACH COMBINED CYCLE UNIT SYSTEM (TWO ‘‘3-ON-1‘‘) WILL CONSIST OF: THREE NOMINAL 250 MEGAWATT MODEL 501G GAS TURBINE-ELECTRICAL GENERATOR SETS WITH EVAPORATIVE INLET COOLING SYSTEMS; THREE SUPPLEMENTARY-FIRED HEAT RECOVERY STEAM GENERATORS (HRSGÂ¿S) WITH SCR REACTORS; ONE NOMINAL 428 MMBTU/HOUR (LHV) GAS-FIRED DUCT BURNER LOCATED WITHIN EACH OF THE THREE HRSGÂ¿S; THREE 149 FEET EXHAUST STACKS; ONE 26 CELL MECHANICAL DRAFT COOLING TOWER; AND A COMMON NOMINAL 500 MW STEAM-ELECTRICAL GENERATOR.	LOW SULFUR FUELS	2	GR S/100 SCF GAS		0.0015	% S		0		
*IL-0112	NELSON ENERGY CENTER	12/28/2010	Electric Generation Facility	Natural Gas	220	MW each	Two combined cycle combustion turbines followed by HRSGs with capability for supplemental fuel firing in HRSG for each combustion turbine using duct burners.		0.0062	LB/MMBTU	HOURLY AVERAGE	0			0		
*IN-0158	ST. JOSEPH ENERGY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	FUEL SPECIFICATION	0.75	GR S/100 SCF GAS		0			0		
LA-0136	PLAQUEMINE COGENERATION FACILITY	7/23/2008	(4) GAS TURBINES/DUCT BURNERS	NATURAL GAS	2876	MMBTU/H	VISUAL INSPECTION FOR OPACITY ON A WEEKLY BASIS, STACK TESTS FOR PM, NOX, SO2, OPACITY, CO EMISSION POINTS GT-500, -600, -700, -800.	LOW SULFUR FUELS WITH MAXIMUM SULFUR CONTENT OF 5 GR/100 SCF.	40.7	lb/hr	HOURLY MAXIMUM	53.7	T/YR	ANNUAL MAXIMUM	3.3	PPMVD @ 15% O2	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	TWO COMBINED CYCLE GAS TURBINES	NATURAL GAS	2110	MMBTU/H	CTG-1 TURBINE/DUCT BURNER (EQT012) CTG-2 TURBINE/DUCT BURNER(EQT013)	USE LOW-SULFUR PIPELINE-QUALITY NATURAL GAS AS FUEL	12.06	lb/hr	MAX	0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Combustion Turbine with Duct Burner	Natural Gas	2449	MMBtu/hr	two 315 MW (nominal) GE Energy 7F Series 5 Rapid Response Combined Cycle Combustion Turbines with Duct Burners and 31 MW (estimated) steam turbine generators		0.3	PPMVD	1 HR AVG, DOES NOT APPLY DURING SS	0.0015	LB/MMBTU	1 HR AVG, DOES NOT APPLY DURING SS	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND EFFICIENT TURBINE DESIGN	8.2	lb/hr	3-HOUR BLOCK AVERAGE	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Use of natural gas a clean burning fuel	5.1	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	Use of natural gas only as a clean burning fuel	5.2	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Use of natural gas a clean burning fuel	6.56	lb/hr	AVERAGE OF THREE ONE HOUR TESTS	0			0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	LOW SULFUR FUEL	0.0011	LB/MMBTU		0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, with duct burners	Natural Gas	51560	MMSCF/rolling 12-MO	Two Siemens 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	low sulfur fuel, only burning natural gas with 0.5 GR/100 SCF	0.0014	LB/MMBTU		34.2	T/YR	PER ROLLING 12-MONTHS	0		
MI-0423	INDECK NILES, LLC	01/04/2017 ACT	FGCTGHRSG (2 Combined Cycle CTGs with HRSGs)	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period. The throughput capacity is 3421 MMBTU/H for each turbine, and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains.	Good Combustion Practices and the use of pipeline quality natural gas.	11.7	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0.06	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0		
*MI-0432	NEW COVERT GENERATING FACILITY	07/30/2018 ACT	FG-TURB/DB1-3 (3 combined cycle combustion turbine and heat recovery steam generator trains)	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG includes a natural gas fired duct burner with a 256 MMBtu/hr heat input capacity and a dry low NOx burner.	Use of clean fuel (natural gas) with a fuel sulfur limit of 0.8 grains per 100 standard cubic feet of natural gas.	0.8	GR/100 SCF	NAT.GAS BURNED IN FG-TURB/DB1-3	0.06	LB/MMBTU	HOURLY; EACH CT/HRSG TRAIN; NSPS KKKK	0		

Table D-A-13
Sulfur Dioxide (SO2) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018 ACT	EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.	Good combustion practices and the use of pipeline quality natural gas.	6.6	LB/H	HOURLY	0.6	GR S/100 SCF	FUEL SUPPLIER RECORDS	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018 ACT	EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.	Good combustion practices and the use of pipeline quality natural gas.	6.6	LB/H	HOURLY	0.6	GR S/100 SCF	FUEL SUPPLIER RECORDS	0		
*VA-0325	GREENSVILLE POWER STATION	06/17/2016 ACT	COMBUSTION TURBINE GENERATOR WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATORS (3)	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Low Sulfur fuel	0.0011	LB/MMBTU	DURING NORMAL OPERATION INCLUDING SU/SD	18.7	T/YR	PER TURBINE	0		
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners On	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Burning natural gas in an efficient combustion turbine burning low sulfur fuel	1.52	lb/hr		6.7	T/YR	PER ROLLING 12 MONTHS	0		
OR-0041	WANAPA ENERGY CENTER	8/8/2005	COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	2384.1	MMBTU/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.		0		SEE POLLUTANT NOTE	0			0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	The owner/operator will be using low sulfur fuel with a sulfur content of 0.4 grains per 100 scf.	0.0011	LB/MMBTU		3.5	lb/hr	468 MW POWERBLOCK	0		
TX-0497	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	COGENERATION TRAIN 2 AND 3 (TURBINE AND DUCT BURNER EMISSIONS)	NATURAL GAS	35	MW	GREEN POWER ONE WILL CONSIST OF TWO NOMINALLY RATED 35 MW GAS FIRED TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS, EQUIPPED WITH 312 MMBTU/HR DUCT BURNERS. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NATURAL GAS. THE DUCT BURNERS WILL BURN NATURAL GAS, COMPLEX GAS OR MIXTURES OF NATURAL GAS AND COMPLEX GAS. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROXIMATELY HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE EMISSIONS ARE PER TRAIN.	THE TURBINES WILL FIRE NATURAL GAS AND THE DUCT BURNERS WILL FIRE NATURAL GAS AND COMPLEX GAS WITH A SULFUR CONTENT LESS THAN FIVE GRAINS PER 100 STANDARD CUBIC FEET ON AN HOURLY BASIS. THE NATURAL GAS AND COMPLEX GAS WILL	12.66	lb/hr		10.06	T/YR		0		
TX-0502	NACOGDOCHES POWER STERNE GENERATING FACILITY	6/5/2006	WESTINGHOUSE/ SIEMENS MODEL SW501F GAS TURBINE W/ 416.5 MMBTU DUCT BURNERS	NATURAL GAS	190	MW		STEAG POWER LLC REPRESENTS THE FIRING OF PIPELINE NATURAL GAS IN THE COMBUSTION TURBINES AND DUCT FIRED HRSGS AS BACT FOR SO2.	7.1	lb/hr		19.8	T/YR		0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner		40.66	lb/hr		35.62	T/YR		0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Natural Gas only, fuel has maximum sulfur content of 0.0003% by weight.	0.98	lb/hr	3 HR AVG.	0.0003	LB/MMBTU	3 HR. AVG.	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur fuel	0.0011	LB/MMBTU		0			0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LIMIT FUEL TYPE TO NATURAL GAS	0			0			0		*SEE NOTES - NOT AVAILABLE-
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	3.7	lb/hr	1-hr average; Duct Burners On	0.0015	lb/MMBtu	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	0.3	PPMVD	1-hr average; Duct Burners On	0.01	lb/MW-hr	1-hr average; Duct Burners On			
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.003	lb/MMBtu							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2266	MMBtu/hr			2.5	lb/hr	0.001103266						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		0.00149	lb/MMBtu							

Table D-A-14
Sulfur Dioxide (SO2) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating unit	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas. Permitted to burn the base-load equivalent of 500 hr/yr per turbine on ULSD.	Use of low-sulfur fuels	2	GR. S/100 SCF GAS	FOR NATURAL GAS	0.0015	% S IN ULSD	FOR ULSD	0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	2-on-1 combined cycle unit (GE 7HA)	Natural gas	4000	MMBtu/hr	Two nominal 430 MW combustion turbines, coupled to a steam turbine generator	Clean fuels	0			0			0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE) Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES, LOW SULFUR FUEL	1	GR/100 SCF	HOURLY	0.25	GR/100 SCF	ANNUAL AVERAGE	0		
TX-0789	DECORDOVA STEAM ELECTRIC STATION	3/8/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE). Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES AND LOW SULFUR FUEL	5	GR/100 SCF	HOURLY	1	GR/100 SCF	ANNUAL	0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Refrigeration Compression Turbines	natural gas	10	M TONNES/YR	Four GE Frame 7E gas turbines for refrigeration and compression at the site	Dry low NOx burners, good combustion practices, pipeline quality sweet natural gas fuel (low sulfur fuel)	5	GR/100 SCF		0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Simple Cycle Electrical Generation Gas Turbines 15.210	natural gas	34	MW	Nine GE PGT25+G4 gas turbines for electrical generation at the site at 34 MW/turbine	Equipment specifications & work practices - Good combustion practices and use of low carbon, low sulfur fuel	2.96	LB/H		1.88	T/YR		0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat Recovery Steam Generator, fired Duct Burners, and Steam Turbine Generator	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Pipeline quality natural gas	1.54	GR/100 DSCF		0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	Combined Cycle Turbine	NATURAL GAS	2635	MMBTU/HR/UNIT	Two Mitsubishi M501GAC turbines (without fast start)	PIPELINE QUALITY NATURAL GAS	1	GR/100 DSCF		0			0		
FL-0263	FPL TURKEY POINT POWER PLANT	2/8/2005	170 MW COMBUSTION TURBINE, 4 UNITS	NATURAL GAS	170	MW	GENERATING CAPACITY: EACH OF THE FOUR GAS TURBINES HAS A NOMINAL GENERATING CAPACITY OF 170 MW FOR GAS FIRING (180 MW FOR OIL FIRING). EACH OF THE FOUR HEAT RECOVERY STEAM GENERATORS (HRSGS) PROVIDES STEAM TO THE SINGLE STEAM TURBINE ELECTRICAL GENERATOR, WHICH HAS A NOMINAL CAPACITY OF 470 MW. THE TOTAL NOMINAL GENERATING CAPACITY OF THE 4-ON-1 COMBINED CYCLE UNIT IS 1150 MW. FUELS: EACH GAS TURBINE WILL FIRE NATURAL GAS AS THE PRIMARY FUEL AND ULTRA LOW SULFUR (0.0015% SULFUR) DISTILLATE OIL AS A RESTRICTED ALTERNATE FUEL. EMISSIONS OF ALL POLLUTANTS INCREASE WITH THE FIRING OF OIL. THE APPLICANT REQUESTS 500 HOURS PER YEAR PER GAS TURBINE (OR EQUIVALENT) FOR OIL FIRING. MODES OF OPERATION: STANDARD NORMAL OPERATION, WITH DUCT BURNER, POWER AUGMENTATION AND PEAKING.	EMISSIONS OF SAM AND SO2 WILL BE MINIMIZED BY FIRING NATURAL GAS AND RESTRICTING THE AMOUNTS OF ULTRA LOW SULFUR DISTILLATE OIL.	2	GR S/100 SCF GAS		0.0015	% S		0		NOT AVAILABLE
FL-0265	HINES POWER BLOCK 4	6/8/2005	COMBINED CYCLE TURBINE	NATURAL GAS	530	MW		CLEAN FUELS	2	GR S/100 SCF GAS	CONTINUOUS	0.05	% S	CONTINUOUS	0		
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	COMBINED CYCLE COMBUSTION TURBINE SYSTEM (4-ON-1)	NATURAL GAS	1972	MMBTU/H	1876 MMBTU/HR WHEN FIRING DISTILLATE FUEL OIL. THE SYSTEM NOMINAL CAPACITY 1280 MW. EACH UNIT NOMINAL CAPACITY 215 MW (ISO) WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATOR.		2	GR S/100 SCF GAS	NATURAL GAS	0.05	% S	FUEL OIL BY WEIGHT	0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H		FUEL SPECIFICATIONS.	2	GR S/100 SCF GAS		0			0		
FL-0337	POLK POWER STATION	10/14/2012	Combine cycle power block (4 on 1)	natural gas	1160	MW	Basis for the emission standard is either NSPS Subpart KKKK or Department BACT determinations. The BACT emission standards for NOX while operating in combined cycle are more stringent than the corresponding Subpart KKKK emissions standards of 15 and 42 ppmvd @15% O2 on a 30-day rolling average for natural gas and fuel oil, respectively.		2	GR S/100 SCF GAS		0.0015	% S		0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	FUEL SPECIFICATION	0.75	GR S/100 SCF GAS		0			0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		USE OF LOW SULFUR NATURAL GAS, 1.8 GRAINS PER 100 SCF	10.1	lb/hr	HOURLY MAXIMUM	44.2	T/YR	ANNUAL MAXIMUM	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITHOUT DUCT FIRNG	NATURAL GAS	270	MW		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS	6.3	lb/hr	3-HOUR BLOCK AVERAGE	0			0		
NJ-0074	WEST DEPTFORD ENERGY	5/6/2009	TURBINE, COMBINED CYCLE	NATURAL GAS	17298	MMFT3/YR		USE OF CLEAN FUELS, NATURAL GAS AND ULTRA LOW SULFUR DISTILLATE OIL	5.66	lb/hr		0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine without Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burner.	Use of natural gas a clean burning fuel	4.94	lb/hr	AVERAGE OF THREE ONE HOUR STACK TESTS	0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	low sulfur fuel, only burning natrual gas with GR/100 SCF	0.0014	LB/MMBTU		34.2	T/YR	PER ROLLING 12-MONTHS	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, without duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	low sulfur fuel, only burning natural gas with 0.5 GR/100 SCF	0.0014	LB/MMBTU		34.2	T/YR	PER ROLLING 12-MONTHS	0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	COMBINED CYCLE COGENERATION >25MW	NATURAL GAS	1882	MMBTU/H	SIEMENS V84.3A	NATURAL GAS FUEL	1.06	lb/hr	3-HRAVG	0			0		

Table D-A-14
Sulfur Dioxide (SO2) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						2880	lb/hr		2102	T/YR		0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	pipeline quality natural gas	27.07	lb/hr	1-H	0			0		
*TX-0678	FREEPORT LNG PRETREATMENT FACILITY	7/16/2014	Combustion Turbine	natural gas	87	MW	The exhaust heat from the turbine will be used to heat a heating medium which is used to regenerate rich amine from the acid gas removal system.		3.68	lb/hr		0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	efficient combustion, natural gas fuel	2	GR S/100 SCF GAS	1-HOUR	0.5	GR S/100 SCF GAS	ANNUAL	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur fuel	0.0011	LB/MMBTU		0			0		
	Catoctin Power LLC		Combustion Turbine	Natural Gas	170	MW		Pipeline quality low sulfur NG	6.17	lb/hr	Monthly average	1	GR S/100 SCF GAS	Sulfur content			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	3.5	lb/hr	1-hr average; Duct Burners Off	0.0015	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	0.3	PPMVD	1-hr average; Duct Burners Off	0.01	LB/MWh	1-hr average; Duct Burners Off			
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			0.0015	lb/MMBtu	1-hr average						
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			2.7	lb/hr							
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.003	lb/MMBtu							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			2.8	lb/hr							
	York Energy Center Block 1				1574	MMBtu/hr			0.003	lb/MMBtu	hourly basis						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		0.00149	lb/MMBtu							
	Calpine/Bethlehem Energy Center				122	MW			0.003	lb/MMBtu							

Table D-A-15
Sulfuric Acid (H_2SO_4) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	06/30/2017 ACT	Natural Gas w/Duct Firing	Natural Gas	2639	MMBtu/hr	Duct burner MRC is 946 MMbtu/hr	Low Sulfur Fuels	0	LB/MMBTU		0			0		
LA-0313	ST. CHARLES POWER STATION	08/31/2016 ACT	SCPS Combined Cycle Unit 1A	Natural Gas	3625	MMBTU/hr		Use of low sulfur fuel	1.21	LB/H	HOURLY MAXIMUM	5.28	T/YR	ANNUAL MAXIMUM	0		
LA-0313	ST. CHARLES POWER STATION	08/31/2016 ACT	SCPS Combined Cycle Unit 1B	Natural Gas	3625	MMBTU/hr		Use of low sulfur fuels	1.21	LB/H	HOURLY MAXIMUM	5.28	T/YR	ANNUAL MAXIMUM	0		
*MI-0432	NEW COVERT GENERATING FACILITY	07/30/2018 ACT	FG-TURB/DB1-3 (3 combined cycle combustion turbine and heat recovery steam generator trains)	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG includes a natural gas fired duct burner with a 256 MMBtu/hr heat input capacity and a dry low NOx burner.	Use of clean fuel (natural gas) with a fuel sulfur limit of 0.8 grains per 100 standard cubic feet of natural gas.	1	LB/H	HOURLY; EACH CT/HRSG TRAIN	0.8	GR/100 SCF	NAT. GAS BURNED IN FG-TURB/DB1-3	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018 ACT	EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.	Good combustion practices and the use of pipeline quality natural gas.	2.7	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	06/29/2018 ACT	EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.	Good combustion practices and the use of pipeline quality natural gas.	2.7	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018 ACT	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Good combustion practices and the use of pipeline quality natural gas.	0.0013	LB/MMBTU	HOURLY; EACH UNIT	5.04	LB/H	HOURLY; EACH UNIT W/O DUCT BURNER FIRING	0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	07/19/2016 ACT	Combined Cycle Combustion Turbine firing Natural Gas with Duct Burner	natural gas	4000	h/yr		USE OF NATURAL GAS A LOW SULFUR FUEL	4.26	LB/H	AV OF THREE ONE H STACK TESTS EVERY 5 YR	0			0		
*PA-0306	TENASKA PA PARTNERS/WESTMORELAND GEN FAC	02/12/2016 ACT	Large combustion turbine	Natural Gas	0		This process entry is for operations with the duct burner. Limits entered are for each turbine.	Low sulfur fuel and good combustion practices	0.0006	LB/MMBTU	HHV	1.8	LB/HR		0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016 ACT	Combustion turbine and HRSG with duct burner NG only	Natural Gas	3338	MMBtu/hr	Emission limits are for each turbine operating with duct burner and do not include startup/shutdown emissions. Tons per year limits is a cumulative value for all three CCCT. CEMS for NOx, CO, and O2. Each CCCT and duct burner have 5 operational scenarios: 1 CCCT with duct burner fired - fueled by NG only 2 CCCT with duct burner fired - fueled by NG blend with ethane 3 CCCT without duct burner fired - fueled by NG only 4 CCCT without duct burner fired - fueled by NG blend with ethane 5 CCCT without duct burner fired - fueled by ULSD (Limited to emergency use only)	ULSD fuel (CCCT only - duct burner is not fired with ULSD), good combustion practices	0.0014	LB/MMBTU		0			0		
*VA-0325	GREENSVILLE POWER STATION	06/17/2016 ACT	COMBUSTION TURBINE GENERATOR WITH DUCT-FIRED HEAT RECOVERY STEAM GENERATORS (3)	natural gas	3227	MMBTU/HR	3227 MMBTU/HR CT with 500 MMBTU/HR Duct Burner, 3 on 1 configuration.	Low Sulfur fuel	0.0006	LB/MMBTU		9.9	T/YR	12 MO ROLLING AVG	0		
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.		0.12	lb/hr	1 HOUR AVERAGE	0			0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs			24.3	TONS	12 MONTH ROLLING AVERAGE	0			0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H		FUEL SPECIFICATIONS	2	GR S/100 SCF GAS		0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr			0.0032	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	31.3	TON/YR	12-MONTH ROLLING TOTAL	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	FUEL SPECIFICATION	0.75	GR S/100SCF FUEL		0			0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		USE OF LOW SULFUR NATURAL GAS, 1.8 GRAINS PER 100 SCF	8.5	lb/hr	*SEE NOTES. HOURLY MAXIMUM	37.2	T/YR	ANNUAL MAXIMUM	0		
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	TWO COMBINED CYCLE GAS TURBINES	NATURAL GAS	2110	MMBTU/H	CTG-1 TURBINE/DUCT BURNER (EQT012) CTG-2 TURBINE/DUCT BURNER(EQT013)	USE OF LOW-SULFUR PIPELINE QUALITY NATURAL GAS AS FUEL AND PROPER SCR DESIGN	1.85	lb/hr	MAX	0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Combustion Turbine with Duct Burner	Natural Gas	2449	MMBtu/hr	two 315 MW (nominal) GE Energy 7F Series 5 Rapid Response Combined Cycle Combustion Turbines with Duct Burners and 31 MW (estimated) steam turbine generators		0.001	LB/MMBTU	1 HR AVG, DOES NOT APPLY DURING SUSD	0.1	PPMVD @ 15% O2	1 HR AVG, DOES NOT APPLY DURING SUSD	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS	12.5	lb/hr	3-HOUR BLOCK AVERAGE	0			0		

Table D-A-15
Sulfuric Acid (H_2SO_4) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE, COMBINED CYCLE, NATURAL GAS, (3)	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired heat recovery steam generator and a natural gas-fired duct burner. Each CT combusts natural gas as the primary fuel and very low-sulfur No. 2 fuel oil as a backup fuel. The use of fuel oil is limited to 1,200 hours per year and only during the months of November through March, and is listed as a separate process. These units are listed as a combined source (all three units) for each type of fuel.	VERY LOW-SULFUR FUEL (NATURAL GAS) OR NO. 2 FUEL OIL (0.015% SULFUR CONTENT BY WEIGHT).	0		SEE NOTE	0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	TURBINE & DUCT BURNER, COMBINED CYCLE, NAT GAS, 3	NATURAL GAS	1844.3	MMBTU/H	Each of these units have a natural gas-fired HRSG & a natural gas fired duct burner. Limits for this process are for turbines and duct burners.	USE OF LOW SULFUR FUEL (NATURAL GAS)	0		SEE NOTE	0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - SIEMENS	Natural Gas	33691	MMCUBIC FT PER YEAR	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two Siemens turbines and two associated duct burners) The heat input rate of the Siemens turbine will be 2,356 MMBtu/hr(HHV) with a 62.1 duct burner MMBtu/hr(HHV).	Use of natural gas a clean burning fuel	2.79	lb/hr		0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	COMBINED CYCLE COMBUSTION TURBINE WITH DUCT BURNER - GENERAL ELECTRIC	Natural gas	33691	MMCUF/year.	Natural Gas Usage <= 33,691 MMft^3/yr per 365 consecutive day period, rolling one day basis (per two turbines and two duct burners) The heat input rate of each General Electric combustion each turbine will be 2,312 MMBtu/hr(HHV) with a 164.4 MMBtu/hr duct burner	Use of natural gas a clean burning fuel and a low sulfur fuel	2.93	lb/hr		0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Use of natural gas a clean burning fuel	0.98	lb/hr		0			0		
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	COMBUSTION TURBINE	NATURAL GAS	2221	MMBUT/H	COMBINED CYCLE WITH DUCT FIRING UP TO 494 MMBTU/H	LOWSULFUR FUEL	0.0004	LB/MMBTU		0			0		
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners On	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Burning natural gas in an efficient combustion turbine and using low sulfur fuel.	0.23	lb/hr		1.01	T/YR	PER ROLLING 12 MONTHS	0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Mitsubishi M501-GAC combustion turbine, combined cycle configuration with duct burner.	natural gs	2988	MMBtu/hr	or ULSD; Duct burner 499 MMBtu/hr, natural gas	Utilize only natural gas or ULSD fuel.	0			0			0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.		0.0002	LB/MMBTU		1.5	LB/H	468 MW POWERBLOCK	0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Combined Cycle Power Blocks 472 MW - (2)	Natural Gas	0		Two natural-gas-fired combined cycle powerblocks where each powerblock consists of a combustion turbine and heat recovery steam generator with duct burner.		0.0005	LB/MMBTU		2.4	T/YR	TOTAL PM - EACH UNIT	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		2.97	T/YR		0.87	lb/hr		0		
*PA-0298	FUTURE POWER PA/GOOD SPRINGS NGCC FACILITY	3/4/2014	Turbine, COMBINED CYCLE UNIT (Siemens 5000)	Natural Gas	2267	MMBtu/hr			3.4	lb/hr	WITH DUCT BURNER	14.3	T/YR	BASED ON A 12-MONTH ROLLING TOTAL	0		
TX-0497	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	COGENERATION TRAIN 2 AND 3 (TURBINE AND DUCT BURNER EMISSIONS)	NATURAL GAS	35	MW	GREEN POWER ONE WILL CONSIST OF TWO NOMINALLY RATED 35 MW GAS FIRED TURBINES AND TWO HEAT RECOVERY STEAM GENERATORS, EQUIPPED WITH 312 MMBTU/HR DUCT BURNERS. THE COMBUSTION TURBINES WILL ONLY BURN PIPELINE QUALITY SWEET NATURAL GAS. THE DUCT BURNERS WILL BURN NATURAL GAS, COMPLEX GAS OR MIXTURES OF NATURAL GAS AND COMPLEX GAS. STEAM PRODUCED IN THE HRSGS WILL BE USED IN THE CHOCOLATE BAYOU WORKS CHEMICAL COMPLEX. THE CHEMICAL COMPLEX WILL CONSUME APPROXIMATELY HALF OF THE ELECTRICAL OUTPUT PRODUCED BY THE TWO NEW TURBINES. EXCESS POWER PRODUCED BY THE COMBUSTION TURBINES WILL BE SOLD TO THE GRID. THE EMISSIONS ARE PER TRAIN.	THE TURBINES WILL FIRE NATURAL GAS AND THE DUCT BURNERS WILL FIRE NATURAL GAS AND COMPLEX GAS WITH A SULFUR CONTENT LESS THAN FIVE GRAINS PER 100 STANDARD CUBIC FEET ON AN HOURLY BASIS	1.94	lb/hr		1.54	T/YR		0		
TX-0502	NACOGDOCHES POWER STERNE GENERATING FACILITY	6/5/2006	WESTINGHOUSE/ SIEMENS MODEL SW501F GAS TURBINE W/ 416.5 MMBTU DUCT BURNERS	NATURAL GAS	190	MW			1.3	lb/hr		13.6	T/YR		0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						44	lb/hr		129	T/YR		0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	pipeline quality natural gas	13.68	lb/hr	1-H	0			0		
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	(2) combined cycle turbines	natural gas	240	MW	The gas turbines will be one of three options: (1) Two Siemens Model F5 (SF5) CTGs each rated at nominal capability of 225 megawatts (MW). Each CTG will have a duct fired HRSG with a maximum heat input of 688 million British thermal units per hour (MMBtu/hr). (2) Two General Electric Model 7FA (GE7FA) CTGs each rated at nominal capability of 215 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 523 MMBtu/hr. (3) Two Mitsubishi Heavy Industry G Frame (MHI501G) CTGs each rated at a nominal electric output of 263 MW. Each CTG will have a duct fired HRSG with a maximum heat input of 686 MMBtu/hr.		0.5	GR SULFUR/100 DSCF		0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	2	GR/100 SCF	1-HOUR	0.5	GR/100 SCF	ANNUAL	0		

Table D-A-15
Sulfuric Acid (H_2SO_4) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Combined Cycle Turbines (>25 MW) â€“ natural gas	natural gas	210	MW	Two power configuration options authorized Siemens â€“ 231 MW + 500 million British thermal units per hour (MMBtu/hr) duct burner GE â€“ 210 MW + 349.2 MMBtu/hr duct burner		15.56	lb/hr		13.63	T/YR		0		
VA-0315	WARREN COUNTY POWER PLANT - DOMINION	12/17/2010	COMBINED CYCLE TURBINE & DUCT BURNER, 3	Natural Gas	2996	MMBTU/H	Emissions are for one of three units (Mitsubishi natural gas-fired combustion turbine (CT) generator,Model M501 GAC).	Natural Gas burning.	0.0001	LB/MMBTU	WITHOUT DUCT BURNER FIRING	0.0003	LB/MMBTU	WITH DUCT BURNER FIRING	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	12/17/2010	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur fuel	0.0006	LB/MMBTU	WITHOUT DUCT BURNING	0			0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	GE 7FA COMBUSTION TURBINE & HEAT RECOVERY STEAM GENERATOR	NATURAL GAS	174	MW	THREE IDENTICAL CT & HSRG UNITS. EACH CT WILL HAVE AN ANNUAL AVERAGE CAPACITY RATING OF 1614 MMBTU/HR. EACH HRSG DUCT BURNER WILL HAVE A MAXIMUM FIRING RATE OF 105 MMBTU/HR.	LIMIT FUEL TYPE TO NATURAL GAS	0			0			0		*SEE NOTES
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Low Sulfur Fuels	0.001	lb/MMBtu	1-hr average; Duct Burners On	2.37	lb/hr	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	2.3	lb/hr	1-hr average; Duct Burners On	0.001	lb/MMBtu	1-hr average; Duct Burners On			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	0.1	ppmvd @ 15% O2	1-hr average; Duct Burners On	0.008	lb/MW-hr	1-hr average; Duct Burners On			
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW			0.0019	lb/MMBtu							
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			0.006	lb/MMBtu	1-hr average						
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			0.000574	lb/MMBtu		1.8	lb/hr				
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.0009	lb/MMBtu							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2266	MMBtu/hr			1.33	lb/hr		0.00059	LB/MMBTU				
	York Energy Center Block 1				1574	MMBtu/hr			0.00046	lb/MMBtu	hourly basis						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		0.00114	lb/MMBtu	average of 3 test runs						
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		0.00114	lb/MMBtu	average of 3 test runs						
	Calpine/Bethlehem Energy Center				122	MW			0.00046	lb/MMBtu							

Table D-A-16
Sulfuric Acid (H_2SO_4) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/o Duct Firing	Natural Gas	2969	MMBtu/hr	Throughput is for turbine only	Low Sulfur content fuel	0.0005	LB/MMBTU		0			0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating unit	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas. Permitted to burn the base-load equivalent of 500 hr/yr per turbine on ULSD.	Use of low-sulfur fuels	2	GR. S/100 SCF GAS	FOR GAS	0.0015	% S IN ULSD	FOR ULSD	0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	2-on-1 combined cycle unit (GE 7HA)	Natural gas	4000	MMBtu/hr	Two nominal 430 MW combustion turbines, coupled to a steam turbine generator	Clean fuels	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	Combined Cycle CTGs with HRSGs)	Natural gas	8322	MMBTU/H	recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not	Good Combustion Practices and the use of pipeline quality natural gas.	4.6	LB/H	PROTOCOL WILL SPECIFY	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combustion Turbine firing Natural Gas	Natural Gas	8040	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL	3.61	LB/H	ONE H STACK TESTS EVERY 5	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	and HRSG without duct burner NG only	Natural gas	0		Emission limits are for each turbine fueled by NG and operating without duct burner being fired and do not include startup/shutdown emissions.	Low sulfur fuels and good combustion practices	0.0014	LB/MMBTU		0			0		
TX-0788	NECHES STATION	3/24/2016	Turbines > 25 MW	natural gas	232	MW	4 Simple cycle CTGs, 2,500 hr/yr operational limitation. Facility will consist of either 232 MW (Siemens) or 220 MW (GE)	good combustion practices, low sulfur fuel	1	GR/100 SCF	HOURLY	0.25	GR/100 SCF	ANNUAL AVERAGE	0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE) Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES AND LOW SULFUR FUEL	1	GR/100 SCF	HOURLY	0.25	GR/100 SCF	ANNUAL AVERAGE	0		
TX-0789	DECORDOVA STEAM ELECTRIC STATION	3/8/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE). Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES AND LOW SULFUR FUEL	5	GR/100 SCF	HOURLY	1	GR/100 SCF	ANNUAL	0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	Combined Cycle Turbine	NATURAL GAS	2635	MMBTU/HR/UNIT	Two Mitsubishi M501GAC turbines (without fast start)	PIPELINE QUALITY NATURAL GAS	1	GR/100 DSCF		0			0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	GE 7HA.02 Turbine	Natural Gas	3496.2	mmBtu/hr	Nominal 640 mWe All emission limits steady-state and include 1000 mmBtu/hr Duct Burner in operation Short Term startup and shutdown limits in lb/event given in permit.	Use of Natural Gas	3.8	LB/HR		16.7	TONS/YEAR		0.0009	LB/MMBTU	
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.		0.12	lb/hr	1 HOUR AVERAGE	0			0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs			24.3	TONS	12 MONTH ROLLING AVERAGE	0			0		
FL-0304	CANE ISLAND POWER PARK	9/8/2008	300 MW COMBINED CYCLE COMBUSTION TURBINE	NATURAL GAS	1860	MMBTU/H		FUEL SPECIFICATIONS	2	GR S/100 SCF GAS		0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.		0.0032	LB/MMBTU	3 ONE-HOUR TEST RUNS	31.3	TON/YR	12-MONTH ROLLING	0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr			0.0032	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	31.3	TON/YR	12-MONTH ROLLING TOTAL	0		
LA-0192	CRESCENT CITY POWER	6/6/2005	GAS TURBINES - 187 MW (2)		2006	MMBTU/H		USE OF LOW SULFUR NATURAL GAS, 1.8 GRAINS PER 100 SCF	8.5	lb/hr	*SEE NOTES. HOURLY MAXIMUM	37.2	T/YR	ANNUAL MAXIMUM	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITHOUT DUCT FIRING	NATURAL GAS	270	MW		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS	9.7	lb/hr	3-HOUR BLOCK AVERAGE	0			0		
*OH-0356	DUKE ENERGY HANGING ROCK ENERGY	12/18/2012	Turbines (4) (model GE 7FA) Duct Burners Off	NATURAL GAS	172	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners off. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Burning natural gas in an efficient combustion turbine and using low sulfur fuel.	0.18	lb/hr		1.01	T/YR	PER ROLLING 12 MONTHS	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		2.97	T/YR		0.65	lb/hr		0		
TX-0516	CITY PUBLIC SERVICE JK SPRUCE ELECTRICE GENERATING UNIT 2	12/28/2005	SPRUCE POWER GENERATOR UNIT NO 2						44	lb/hr		129	T/YR		0		
TX-0600	THOMAS C. FERGUSON POWER PLANT	9/1/2011	Natural gas-fired turbines	natural gas	390	MW	(2) GE7FA at 195 MW each, (1) steam turbine at 200 MW. Each turbine is equipped with an unfired heat recovery steam generator (HRSG), which provides steam for the steam turbine.	pipeline quality natural gas	13.68	lb/hr	1-H	0			0		
*TX-0730	COLORADO BEND ENERGY CENTER	4/1/2015	Combined-cycle gas turbine electric generating facility	natural gas	1100	MW	combined cycle power plant that uses two combustion turbines and one steam turbine, model GE 7HA.02	efficient combustion, natural gas fuel	2	GR/100 SCF	1-HOUR	0.5	GR/100 SCF	ANNUAL	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Low sulfur fuel	0.0006	LB/MMBTU	WITHOUT DUCT BURNING	0			0		
	Astoria Energy LLC		Combustion Turbine	Natural Gas	1000	MW		Low Sulfur Fuels	0.001	lb/MMBtu	1-hr average; Duct Burners Off	0.9	lb/hr	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	2.2	lb/hr	1-hr average; Duct Burners Off	0.001	lb/MMBtu	1-hr average; Duct Burners Off			
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW		Low Sulfur Fuels	0.1	ppmvd @ 15% O2	1-hr average; Duct Burners Off	0.007	lb/MW-hr	1-hr average; Duct Burners Off			
	Pioneer Valley		Combustion Turbine	Natural Gas	387	MW	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.		0.0019	lb/MMBtu							
	Cricket Valley Energy Center		Combustion Turbine	Natural Gas	1000	MW			0.006	lb/MMBtu	1-hr average						
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			0.000574	lb/MMBtu		1.8	lb/hr				
	UGI Development Co/ Hunlock Creek			Natural Gas	471.2	MMBtu/hr			0.0009	lb/MMBtu							
	Hess Newark Energy Center		Combustion Turbine	Natural Gas	2320	MMBtu/hr			1.36	lb/hr							
	York Energy Center Block 1				1574	MMBtu/hr			0.00046	lb/MMBtu	hourly basis						
	Calpine/Bethlehem Energy Center				122	MW			0.00046	lb/MMBtu							

Table D-A-17
Greenhouse Gases (GHG) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSIO N LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1A	Natural Gas	3625	MMBTU/hr		Thermally efficient combustion turbines and good combustion practices	0			0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Combined Cycle Unit 1B	Natural Gas	3625	MMBTU/hr		Thermally efficient combustion turbines and good combustion practices	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGCTGHRSG (2 Combined Cycle CTGs with HRSGs)	Natural gas	8322	MMBTU/H	There are 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) identified as EUCTGHRSG1 & EUCTGHRSG2 in the flexible group FGCTGHRSG. The total hours for startup and shutdown for each train shall not exceed 500 hours per 12-month rolling time period. The throughput capacity is 3421 MMBTU/H for each turbine, and 740 MMBTU/H for each duct burner for a combined throughput of 4161 MMBTU/H or 8322 MMBTU/H for both trains.	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).	2097001	T/YR	12-MONTH ROLLING TIME PERIOD	0			0		
*MI-0432	NEW COVERT GENERATING FACILITY	7/30/2018	FG-TURB/DB1-3 (3 combined cycle combustion turbine and heat recovery steam generator trains)	Natural gas	1230	MW	Three (3) combined-cycle combustion turbine (CT) / heat recovery steam generator (HRSG) trains. Each CT is a natural gas fired Mitsubishi model 501G, equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG includes a natural gas fired duct burner with a 256 MMBtu/hr heat input capacity and a dry low NOx burner.	Several energy efficiency measures and the use of natural gas.	1425081	T/YR	EACH CT/HRSG TRAIN; 12-MO. ROLL TIME PER	7978	BTU/KW-H	EACH CT/HRSG TRAIN; 12-MO ROLL AVG	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (South Plant): A combined cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/H (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/H (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR and an oxidation catalyst.	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).	1978297	T/YR	12-MO ROLLING TIME PERIOD	806	LB/MW-H	12-OPERATING MONTH ROLL AVG BASIS	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUCTGHRSG (North Plant): A combined-cycle natural gas-fired combustion turbine generator with heat recovery steam generator.	Natural gas	500	MW	Nominal 500 MW electricity production. Turbine rating of 3,080 MMBTU/hr (HHV) and HRSG duct burner rating of 755 MMBTU/hr (HHV). A combined-cycle natural gas-fired combustion turbine generator (CTG) with heat recovery steam generator (HRSG) in a 1x1 configuration with a steam turbine generator (STG) for a nominal 500 MW electricity production. The CTG is a H-class turbine with a rating of 3,080 MMBTU/hr (HHV). The HRSG is equipped with a natural gas-fired duct burner rated at 755 MMBTU/hr (HHV) at ISO conditions to provide heat for additional steam production. The HRSG is not capable of operating independently from the CTG. The CTG/HRSG is equipped with dry low NOx burner (DLNB), SCR, and an oxidation catalyst.	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).	1978297	T/YR	12-MO ROLL TIME PERIOD	806	LB/MWH	12- OPERATING MONTH ROLL AVG	0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	FGCTGHRSG (EUCTGHRSG1 & EUCTGHRSG2)	Natural gas	0		Two (2) combined-cycle natural gas-fired combustion turbine generators, each with a heat recovery steam generator (CTGHRSG). Plant nominal 1,150 MW electricity production. Turbines are each rated at 3,658 MMBTU/H and HRSG duct burners are each rated at 800 MMBTU/H. The HRSGs are not capable of operating independently from the CTGs.	Energy efficiency measures	2042773	T/YR	12-MO ROLLING TIME PERIOD; EACH UNIT	794	LB/MW-H	12-OPER MO ROLL AVG; EACH UNIT	0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine firing Natural Gas with Duct Burner	natural gas	4000	h/yr		USE OS NATURAL GAS A CLEAN BURNING FUEL	888	LB/MW-H	BASED ON CONSECUTIVE 12 MONTH ROLLING	0			0		
*PA-0306	TENASKA PA PARTNERS/WESTMORELA ND GEN FAC	2/12/2016	Large combustion turbine	Natural Gas	0		This process entry is for operations with the duct burner. Limits entered are for each turbine.	Good combustion practices	1881905	TPY		0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Combustion turbine and HRSG with duct burner NG only	Natural Gas	3338	MMBtu/hr	Emission limits are for each turbine operating with duct burner and do not include startup/shutdown emissions. Tons per year limits is a cumulative value for all three CCCT. CEMS for NOx, CO, and O2. Each CCCT and duct burner have 5 operational scenarios: 1 CCCT with duct burner fired - fueled by NG only 2 CCCT with duct burner fired - fueled by NG blend with ethane 3 CCCT without duct burner fired - fueled by NG only 4 CCCT without duct burner fired - fueled by NG blend with ethane 5 CCCT without duct burner fired - fueled by ULSD (Limited to emergency use only)	low sulfur fuel and good combustion practices	3352086	TONS	12-MONTH ROLLING BASIS	0			0		
TN-0162	JOHNSONVILLE COGENERATION	4/19/2016	Natural Gas-Fired Combustion Turbine with HRSG	Natural Gas	1339	MMBtu/hr	Turbine throughput is 1019.7 MMBtu/hr when burning natural gas and 1083.7 MMBtu/hr when burning No. 2 oil. Duct burner throughput is 319.3 MMBtu/hr. Duct burner firing will occur during natural gas combustion only.	Good combustion design and practices	1800	LB/MWH	12-MONTH MOVING AVERAGE	0			0		
TX-0791	ROCKWOOD ENERGY CENTER	3/18/2016	Combined Cycle & Cogeneration (> 25 megawatts (MW))	natural gas	889	MW	(2) GE 7HA.01 in a 2x1 configuration and a 872 million British thermal units per hour (MMBtu/hr) duct burner	Good combustion practices	901	LB/MWH		0			0		
TX-0791	ROCKWOOD ENERGY CENTER	3/18/2016	Combined Cycle & Cogeneration (> 25 MW)	natural gas	1127	MW	(2) GE 7HA.02 in a 2x1 configuration and a 985 MMBtu/hr duct burner	Good combustion practices	865	LB/MWH		0			0		
TX-0791	ROCKWOOD ENERGY CENTER	3/18/2016	Combined Cycle & Cogeneration (> 25 MW)	natural gas	748	MW	(2) GE 7FA.05 in a 2x1 configuration and a 826 MMBtu/hr duct burner	Good combustion practices	944	LB/MWH		0			0		
TX-0791	ROCKWOOD ENERGY CENTER	3/18/2016	Combined Cycle & Cogeneration (> 25 MW)	natural gas	889	MW	(2) MHI 501GAC in a 2x1 configuration and a 221 MMBtu/hr duct burner	good combustion practices	929	LB/MWH		0			0		
TX-0791	ROCKWOOD ENERGY CENTER	3/18/2016	Combined Cycle & Cogeneration (> 25 MW)	natural gas	889	MW	(2) MHI 501GAC in (2) 1x1 configurations and a 221 MMBtu/hr duct burner	good combustion practices	929	LB/MWH		0			0		
TX-0791	ROCKWOOD ENERGY CENTER	3/18/2016	Combined Cycle & Cogeneration (> 25 MW)	natural gas	915	MW	(2) Siemens SCC6-8000H(1.4) in a 2x1 configuration and a 326 MMBtu/hr duct burner	good combustion practices	965	LB/MWH		0			0		
TX-0819	GAINES COUNTY POWER PLANT	4/28/2017	Combined Cycle Turbine with Heat Recovery Steam Generator, fired Duct Burners, and Steam Turbine Generator	NATURAL GAS	426	MW	Four Siemens SGT6-5000F5 natural gas fired combustion turbines with HRSGs and Steam Turbine Generators	Pipeline quality natural gas	960	LB / MW H		0			0		

Table D-A-17
Greenhouse Gases (GHG) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSIO N LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	GE 7HA.02 Turbine	Natural Gas	3496.2	mmBtu/hr	Nominal 640 mWe All emission limits steady-state and include 1000 mmBtu/hr Duct Burner in operation Short Term startup and shutdown limits in lb/event given in permit.	Use of Natural Gas, Model GE7HA	528543	LB/HR		2315020	TONS/YEAR		826	LB/MW-HR	
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.		1085	LB/GROSS MWH	12 MONTH ROLLING AVERAGE	0			0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Fuel Usage Restriction to natural gas and low sulfur distillate fuel	1.01E+06	T/YR	12 MONTH ROLLING AVERAGE	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #2 -combined cycle	natural gas	2258	mmBtu/hr			1.32E+06	T/YR	12-MONTH ROLLING TOTAL	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FOUR (4) NATURAL GAS COMBINED CYCLE COMBUSTION TURBINES	NATURAL GAS	2300	MMBTU/H	EACH TURBINE IS EQUIPED WITH DRY LOW NOX BURNERS, NATURAL GAS FIRED DUCT BURNERS, AND A HEAT RECOVERY STEAM GENERATOR IDENTIFIED AS HRSG#. NOX EMISSIONS CONTROLLED BY SELECTIVE CATALYTIC REDUCTION SYSTEMS (SCR##) ALONG WITH CO AND VOC EMISSSIONS CONTROLLED BY OXIDATION CATAYLST SYSTEMS (CAT##) IN EACH TURBINE. EACH STACK HAS CONTINUOUS EMISSIONS MONITORS FOR NOX AND CO. COMBINED NOMIAL POWER OUTPUT IS 1.350 MW.	HIGH THERMAL EFFICIENCY DESIGN	7646	BTU/KW-H		4.89E+06	TONS	12 CONSECUTIVE MONTH PERIOD	0		
LA-0256	COGENERATION PLANT	12/6/2011	COGENERATION TRAINS 1-3 (1-10, 2-10, 3-10)	NATURAL GAS	475	MMBTU/H	EACH COGEN TRAIN CONSISTS OF A 50 MW GE LM6000 PF SPRINT TURBINE AND A HEAT RECOVERY STEAM GENERATOR EQUIPPED WITH A 70 MM BTU/HR DUCT BURNER.	USE OF NATURAL GAS AS FUEL AND GOOD COMBUSTION PRACTICES	55576.77	LB/H	HOURLY MAXIMUM	0			0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion/operating practices and fueled by natural gas - use GE LM2500+G4 turbines	4.87E+06	T/YR	ANNUAL MAXIMUM FROM THE FACILITYWIDE	0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	2 COMBINED-CYCLE COMBUSTION TURBINES	NATURAL GAS	725	MEGAWATT	TWO GENERAL ELECTRIC (GE) F-CLASS ADVANCED COMBINED CYCLE COMBUSTION TURBINES (CTS) WITH A NOMINAL GENERATING CAPACITY OF 725 MW, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX BURNERS, SCR, OXIDATION CATALYST	CO2 CEMS	7605	BTU/KW-H	@ ISO CONDITIONS	57.4	% EFFICIENCY	@ ISO CONDITIONS	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	2 COMBINED CYCLE COMBUSTION TURBINES, WITH DUCT FIRING	NATURAL GAS	1000	MW	TWO MITSUBISHI ‘‘G‘‘ MODEL COMBUSTION TURBINE GENERATORS (CTS) WITH A NOMINAL GENERATING CAPACITY OF 270 MW CAPACITY EACH, COUPLED WITH A HEAT RECOVERY STEAM GENERATOR (HRSG) EQUIPPED WITH DUCT BURNERS, DRY LOW-NOX COMBUSTORS, SELECTIVE CATALYTIC REDUCTION (SCR), OXIDATION CATALYST	EXCLUSIVE USE OF PIPELINE-QUALITY NATURAL GAS, AND INSTALLATION OF HIGH-EFFICIENCY CT MODEL (MITSUBISHI ‘‘G‘‘ MODEL)	946	LB/MW-H	12-MONTH ROLLING	7500	BTU/KWH (HEAT RATE)	AT ALL TIMES, EXCLUDING SU/SD	0		
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		954	LB/MW-H	12-MONTH ROLLING AVERAGE	0			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices and energy efficiency.	995	LB/MW-H	12-MO. ROLLING AVERAGE	0			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG and duct burner (DB)	Natural gas	2486	MMBTU/H	This process is permitted in a flexible group format, identified in the permit as FG-CTG/DB1-2 and is for two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equipped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system. Additionally, the HRSG is operating with a natural gas fired duct burner for supplemental firing. The throughput is 2,486 MMBTU/H for each CTG/DB.	Good combustion practices and energy efficiency	1071	LB/MW-H	12-MONTH ROLLING AVG.	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB-4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.		1.39E+06	T/YR	12-MO ROLL TIME PERIOD DETER EACH MONTH	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	FG-CTGHRSG: 2 Combined cycle CTGs with HRSGs with duct burners	natural gas	647	MMBTU/H for each CTGHRSG	This process is identified in the permit as FGCTGHRSG; it is 2 combined cycle natural gas-fired combustion turbine generators (CTGs) with Heat Recovery Steam Generators (HRSGs) equipped with duct burners for supplemental firing (EUCTGHRSG1 & EUCTGHRSG2 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period. Each CTGHRSG shall not exceed 647 MMBtu/hr on a fuel heat input basis.	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).	3.39E+05	T/YR	12-MO ROLL TIME PERIOD	0			0		
*NJ-0082	WEST DEPTFORD ENERGY STATION	7/18/2014	Combined Cycle Combustion Turbine with Duct Burner	Natural Gas	20282	MMCF/YR	This is a 427 MW Siemens Combined Cycle Turbine with duct burner Heat Input rate of the turbine = 2276 MMbtu/hr (HHV) Heat Input rate of the Duct burner= 777 MMbtu/hr(HHV) The fuel use of 20,282 MMCF/YR is for three turbines and three Duct burners.	Turbine efficiency and Use of Natural gas a clean burning fuel	1.24E+06	T/YR	CONSECUTIVE 12 MONTH (ROLLING 1 MONTH)	947	LB/MW-H	CONSECUTIVE 12 MONTH (ROLLING 1 MONTH)	0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, with duct burners	Natural Gas	51560	MMSCF/rolling 12-MO	Two Siemens 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	state-of-the-art high efficiency combustion technology	318404	LB/H		1.44E+06	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, with duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process with duct burners.	state-of-the-art high efficiency combustion technology	318404	LB/H		1.39E+06	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Mitsubishi M501-GAC combustion turbine, combined cycle configuration with duct burner.	natural gs	2988	MMBtu/hr	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Thermal efficiency Clean fuels	1000	LB/GROSS MWH	365-DAY ROLLING AVERAGE	0			0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Combined-cycle Turbines (2) - Natural gas fired	Natural Gas	3277	MMBTU/H	Two combine cycle Turbines, each with a combustion turbine and heat recovery steam generator with duct burner. Each combined-cycle process will be rated at 468 MW or less. The heat input rating of each combustion gas turbine is 2890 MMBtu/hr (HHV) or less, and the heat input rating of each supplemental duct burner is equal to 387 MMBtu/hr (HHV) or less.	Good combustion practices.	1.48E+06	T/YR	468 MW POWERBLOCK	1.39E+06	T/YR	454 MW POWERBLOCK	0		

Table D-A-17
Greenhouse Gases (GHG) RBLC Search - Combustion Turbines Firing Natural Gas (With Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSIO N LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	Combined Cycle Combustion Turbine AND DUCT BURNER (3)	Natural Gas	2538000	MMBTU/H	Three powerblocks consisting of three (3) natural gas fired F class combustion turbines coupled with three (3) heat recovery steam generators (HSRGs) equipped with natural gas fired duct burners.		281727	LB/H	WHEN DUCT BURNERS OPERATING	298106	LB/H	WHEN DUCT BURNERS OPERATING	0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.		3.67E+06	T/YR	12-MONTH ROLLING TOTAL FOR BOTH UNITS	0			0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/CONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		1.38E+06	T/YR		0			0		
TX-0612	THOMAS C. FERGUSON POWER PLANT	11/10/2011	COMBINED CYCLE TURBINE GENERATOR U1-STK	Natural Gas	1746	MMBTU/H	Natural gas-fired GE 7FA combustion turbine unit, U1-STK. and is rated at Max. based-load output of 195 MW and vented to a Heat Recovery Steam Generator(HRSG) that is equipped with a SCR and an Oxidation Catalyst(OC).	Good Combustion Practices	908957.6	LB/H	30-DAY ROLLING AVERAGE	153392.1	LB/H	STARTUP AND SHUTDOWN (ONLY)	0		
*TX-0679	CORPUS CHRISTI LIQUEFACTION PLANT	2/27/2015	Refrigeration Compressor Turbine	natural gas	40000	hp	There are three LNG trains. In total there are (6) GE LM2500+ DLE turbines driving the compressors in the ethylene refrigeration sections.	install efficient turbines, follow the turbine manufacturerâ€™s emission-related written instructions for maintenance activities including prescribed maintenance intervals to assure good combustion and efficient operation. Compressors shall be inspected and maintained according to a written maintenance plan to maintain efficiency.	1.47E+05	T/YR	12-MONTH ROLLING BASIS	0			0		
*TX-0743	AUSTIN ENERGY, SAND HILL ENERGY CENTER	9/29/2014	Combustion Turbine with HRSG, Duct Burners, and SCR	Natural Gas	7943	Btu/kWh (HHV, gross)	GE 7FA.04 Gross Heat Rate is with and without duct burner firing and includes MSS.		930	LB/MW-H	365-DAY ROLLING AVERAGE	1.46E+06	TPY CO2E	365-DAY ROLLING TOTAL	0		
*TX-0748	FGE POWER, FGE TEXAS PROJECT	4/28/2014	Combined Cycle Combustion Turbine with DB, HRSG and SCR	Natural Gas	7625	Btu/kWh	The plant will consist of four identical Alstom GT24 natural gas-fired CTGs. The CTGs will burn pipeline quality natural gas to rotate an electrical generator to generate electricity. The exhaust gas will exit the CTG and be routed to the heat recovery steam generator (HRSG) for steam production. Steam produced by each of the two HRSGs will be routed to the steam turbine. The two CTGs and one steam turbine will be coupled to electric generators to produce electricity for sale to the Electric Reliability Council of Texas (ERCOT) power grid. Each CTG has an approximate maximum base-load electric power output of 230.7 MW. The maximum electric power output from each steam turbine is approximately 336 MW. The units may operate at reduced load to respond to changes in system power requirements and/or stability.		889	LB/GROSS MWH	APPLIES WITH OR WITHOUT DB; INCLUDES MSS	48	TON CO2/HR PER EVENT	MSS	0		
*TX-0766	GOLDEN PASS LNG EXPORT TERMINAL	9/11/2015	Refrigeration Compression Turbines	natural gas	15.6	MMtpy	Six GE Frame 7 Turbines at site.	Equipment specifications & work practices - Good combustion practices and use of low carbon fuel	6.15E+05	T/YR		0			0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	COMBUSTION TURBINES, (2)	Natural Gas	593	MMBTU/H	Burns primarily natural gas but has the capacity to burn up to 500 hours of ultra low sulfur diesel fuel (ULSD) as backup.	Controlled by the use of low carbon fuels and high efficiency design. The heat rate shall be no greater than 8,983 Btu/kW-h (HHV, gross).	2.96E+05	T/YR	12 MO ROLLING AVG	1050	LB/MWH	12 MO AVERAGE	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Three (3) Mitsubishi M501 GAC combustion turbine generators with HRSG duct burners (natural gas-fired).	Energy efficient combustion practices and low GHG fuels.	7500	BTU/KW-H		0			0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Combined Cycle Turbine/Duct Burner	Natural Gas	2419.61	mmBtu/Hr	This entry is for both of two identical units at the facility. Nominal 197 mW General Electric Frame 7FA.04 Turbine w/ Duct Burner - throughput denotes aggregate heat input of turbine and duct burner (HHV).	Use of GE Frame 7EA CT Low Carbon Fuel	272556	LB/H		792	LB/MW/H		0		
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			858	LB/MW-H	12-mo rolling average	1.20E+06	tpy	12-mo rolling total			
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			1.68E+06	T/YR							
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2016	MMBtu/hr			825	LB/MW-H				Not to exceed within 180 days during startup			
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2016	MMBtu/hr			895	LB/MW-H				Not to exceed following 365 days after startup.			
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			876	LB/MW-H		1.88E+06	tpy				
	Huntington Beach Energy Project		Combustion Turbine	Natural Gas	939	MW (net)			0.479	MTCO2/MWh							
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG with duct burner		880	LB/MW-H							
	Shell Chemical Appalachia/Petrochemicals Complex	6/18/2015			664	MMBtu/hr	combustion turbines with duct burners		1030	LB/MW-H	30-day rolling average						

Table D-A-18
Greenhouse Gases (GHG) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CT-0161	KILLINGLY ENERGY CENTER	6/30/2017	Natural Gas w/o Duct Firing	Natural Gas	2969	MMBtu/hr	Throughput is for turbine only	Use of low carbon fuel	7273	BTU/KW-HR	12-MONTH ROLLING (NET PLANT, GAS ONLY)	816	LB/MW-HR	(NET, GAS ONLY)	0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Combined-cycle electric generating unit	Natural gas	3096	MMBtu/hr per turbine	3-on-1 combined cycle unit. GE 7HA.02 turbines, approximately 350 MW per turbine. Total unit generating capacity is approximately 1,600 MW. Primarily fueled with natural gas. Permitted to burn the base-load equivalent of 500 hr/yr per turbine on ULSD.	Use of low-emitting fuels and technologies	850	LB/MWH	FOR GAS OPERATION, 12-MO ROLLING	1210	LB/MWH	FOR ULSD OPERATION, 12-MO ROLLING	0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	FGCTGHRSG (2 Combined cycle CTGs with HRSGs; EUCTGHRSG10 & EUCTGHRSG11)	Natural gas	554	MMBTU/H, each	Two combined cycle natural gas fired combustion turbine generators (CTGs) with heat recovery steam generators (HRSG) (EUCTGHRSG10 & EUCTGHRSG11 in FGCTGHRSG). The total hours for both units combined for startup and shutdown shall not exceed 635 hours per 12-month rolling time period.	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).	312321	T/YR	12-MO. ROLLING TIME PERIOD; EACH EU.	0			0		
MI-0427	FILER CITY STATION	11/17/2017	EUCCT (Combined cycle CTG with unfired HRSG)	Natural gas	1934.7	MMBTU/H	A 1,934.7 MMBTU/H natural gas fired heavy frame industrial combustion turbine. The turbine operates in combined-cycle with an unfired heat recovery steam generator (HRSG).	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).	992286	T/YR	12-MO.ROLL.TIME PERIOD	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	Combined Cycle Combustion Turbine firing Natural Gas without Duct Burner	Natural Gas	8040	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL	888	LB/MW-H	BASED ON CONSECUTIVE 12 MONTH ROLLING	0			0		
TX-0787	TRINIDAD GENERATING FACILITY	3/1/2016	Combined Cycle & Cogeneration	natural gas	497	MW		Good Combustion Practices	937	LB/MW HR		0			0		
TX-0788	NECHES STATION	3/24/2016	Combined Cycle & Cogeneration	natural gas	231	MW	2 CTGs to operate in simple cycle & combined cycle modes. 231 MW (Siemens) or 210 MW (GE) Simple cycle operations limited to 2,500 hr/yr.	GOOD COMBUSTION PRACTICES	924	LB/MWH		0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Refrigeration Compression Turbines	natural gas	10	M TONNES/YR	Four GE Frame 7E gas turbines for refrigeration and compression at the site	Equipment specifications & work practices - Good combustion practices and use of low carbon fuel	504517	T/YR		0			0		
TX-0790	PORT ARTHUR LNG EXPORT TERMINAL	2/17/2016	Simple Cycle Electrical Generation Gas Turbines 15.210	natural gas	34	MW	Nine GE PGT25+G4 gas turbines for electrical generation at the site at 34 MW/turbine	Equipment specifications & work practices - Good combustion practices and use of low carbon, low sulfur fuel	156912	T/YR		1060	LB/MW		0		
TX-0805	EAGLE MOUNTAIN STEAM ELECTRIC STATION	7/19/2016	Combined Cycle & Cogeneration	natural gas	462	MW		Good Combustion Practices	917	LB/MW H		0			0		
TX-0810	DECORDOVA STEAM ELECTRIC STATION (DECORDOVA STATION)	10/4/2016	Combined Cycle and Cogeneration (>25 MW)	natural gas	213	MW	Two turbine options: GE 7FA [210 megawatts (MW)] or Siemens 5000F (231MW)	good combustion practices and firing low carbon fuel.	966	LB/MW H		0			0		
TX-0817	CHOCOLATE BAYOU STEAM GENERATING (CBSG) STATION	2/17/2017	Combined Cycle Cogeneration	NATURAL GAS	50	MW	2 UNITS EACH 50 MW GE LM6000		1000	LB/MW H		0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	Combined Cycle Turbine	NATURAL GAS	2635	MMBTU/HR/UNIT	Two Mitsubishi M501GAC turbines (without fast start)	PIPELINE QUALITY NATURAL GAS, GOOD COMBUSTION PRACTICES	884	LB/MWH		0			0		
*TX-0834	MONTGOMERY COUNTY POWER STATIOIN	3/30/2018	COMBINED CYCLE TURBINE MSS REDUCED LOAD	NATURAL GAS	0		9 HOURS STARTUP, 1 HOUR SHUTDOWN	minimizing duration of startup / shutdown events, engaging the pollution control equipment as soon as practicable (based on vendor recommendations and guarantees), and meeting the emissions limits on the MAERT	223	TON/H		0			0		
*DE-0023	NRG ENERGY CENTER DOVER	10/31/2012	UNIT 2- KD1	Natural Gas	655	MMBTU/H	500 MMBTU/hr Gas Turbine (Model: GE LM6000) rated at 52 MW and 155 MMBTU/hr Heat Recovery Steam Generator rated at 18 MW. The unit is required to operate a certified CEMS and COMS.		1,085.0	LB/GROSS MWH	12 MONTH ROLLING AVERAGE	0.00E+00			0		
DE-0024	GARRISON ENERGY CENTER	1/30/2013	Unit 1	Natural Gas	2260	million BTUs		Fuel Usage Restriction to natural gas and low sulfur distillate fuel	1,006,304.0	TONS	12 MONTH ROLLING AVERAGE	0.00E+00			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	Combustion turbine #1 - combined cycle	natural gas	2258	mmBtu/hr	two identical Siemens SGT6-5000F combined cycle turbines without duct firing, each at 2258 mmBtu/hr generating approx. 300 MW each.		1,318,647.0	TON/YR	12-MONTH ROLLING	0.00E+00			0		
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Combined Cycle Refrigeration Compressor Turbines (8)	natural gas	286	MMBTU/H	GE LM2500+G4	Good combustion/operating practices and fueled by natural gas - use GE LM2500+G4 turbines	4,872,107.0	TONS/YEAR	ANNUAL MAXIMUM FROM THE FACILITYWIDE	0.00E+00			0		
*MI-0402	SUMPTER POWER PLANT	11/17/2011	Combined cycle combustion turbine w/ HRSG	Natural gas	130	MW electrical output	This is a combined-cycle combustion turbine with a non-fired heat recovery steam generator (HRSG). Natural gas-fired combustion turbine conversion to combined-cycle.		954.0	LB/MW-H	12-MONTH ROLLING AVERAGE	0.00E+00			0		
*MI-0405	MIDLAND COGENERATION VENTURE	4/23/2013	Natural gas fueled combined cycle combustion turbine generators (CTG) with HRSG	Natural gas	2237	MMBTU/H	Throughput is 2,237 MMBTU/H for each CTG Equipment is permitted as following flexible group (FG): FG-CTG1-2: Two natural gas fired CTGs with each turbine containing a heat recovery steam generator (HRSG) to operate in combined cycle. The two CTGs (with HRSG) are connected to one steam turbine generator. Each CTG is equpped with a dry low NOx (DLN) burner and a selective catalytic reduction (SCR) system.	Good combustion practices and energy efficiency.	995.0	LB/MW-H	12-MO. ROLLING AVERAGE	0.00E+00			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGCCA or FGCCB--4 nat. gas fired CTG w/ DB for HRSG	natural gas	2587	MMBTU/H heat input, each CTG	Natural gas fired CTG with DB for HRSG; 4 total. Technology A (4 total) is 2587 MMBTU/H design heat input each CTG. Technology B (4 total) is 2688 MMBTU/H design heat input each CTG. Permit was issued for either of two F Class turbine technologies with slight variations in emission rates. Applicant will select one technology. Installation is two separate CTG/HRSG trains driving one steam turbine electrical generator; Two 2X1 Blocks. Each CTG will be rated at 211 to 230 MW (gross) output and the station nominal generating capacity will be up to 1,400 MW.		1,386,286.0	T/YR	12-MO ROLL TIME PERIOD DETER EACH MONTH	0.00E+00			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Siemens, without duct burners	Natural Gas	515600	MMSCF/rolling 12-months	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	state-of-the-art high efficiency combustion technology	318,404.0	LB/H		1.44E+06	T/YR	PER ROLLING 12-MONTHS	840	LB/MW-H	GROSS OUTPUT
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	2 Combined Cycle Combustion Turbines-Mitsubishi, without duct burners	Natural Gas	47917	MMSCF/rolling 12-MO	Two Mitsubishi 2932 MMBtu/H combined cycle combustion turbines , both with 300 MMBtu/H duct burners, with dry low NOx combustors, SCR, and catalytic oxidizer. Will install either 2 Siemens or 2Mitsubishi, not both (not determined). Short term limits are different with and without duct burners. This process without duct burners.	state-of-the-art high efficiency combustion technology	318,404.0	LB/H		1.39E+06	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES

Table D-A-18
Greenhouse Gases (GHG) RBLC Search - Combustion Turbines Firing Natural Gas (Without Duct Burning)
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.		3,665,974.0	TPY	12-MONTH ROLLING TOTAL FOR BOTH UNITS	0.00E+00			0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Turbine, Combined Cycle, #1 and #2	Natural Gas	3046	MMBtu/hr	Equipped with SCR and Oxidation Catalyst		1,380,899.0	T/YR		0.00E+00			0		
TX-0612	THOMAS C. FERGUSON POWER PLANT	11/10/2011	COMBINED CYCLE TURBINE GENERATOR U1-STK	Natural Gas	1746	MMBTU/H	Natural gas-fired GE 7FA combustion turbine unit, U1-STK. and is rated at Max. based-load output of 195 MW and vented to a Heat Recovery Steam Generator(HRSG) that is equipped with a SCR and an Oxidation Catalyst(OC).	Good Combustion Practices	908,957.6	LB/H	30-DAY ROLLING AVERAGE	1.53E+05	LB/H	STARTUP AND SHUTDOWN (ONLY)	0		
*TX-0679	CORPUS CHRISTI LIQUEFACTION PLANT	2/27/2015	Refrigeration Compressor Turbine	natural gas	40000	hp	There are three LNG trains. In total there are (6) GE LM2500+ DLE turbines driving the compressors in the ethylene refrigeration sections.	install efficient turbines, follow the turbine manufacturerâ€™s emission-related written instructions for maintenance activities including prescribed maintenance intervals to assure good combustion and efficient operation. Compressors shall be inspected and maintained according to a written maintenance plan to maintain efficiency.	146,754.0	TPY	12-MONTH ROLLING BASIS	0.00E+00			0		
*TX-0748	FGE POWER, FGE TEXAS PROJECT	4/28/2014	Combined Cycle Combustion Turbine with DB, HRSG and SCR	Natural Gas	7625	Btu/kWh	The plant will consist of four identical Alstom GT24 natural gas-fired CTGs. The CTGs will burn pipeline quality natural gas to rotate an electrical generator to generate electricity. The exhaust gas will exit the CTG and be routed to the heat recovery steam generator (HRSG) for steam production. Steam produced by each of the two HRSGs will be routed to the steam turbine. The two CTGs and one steam turbine will be coupled to electric generators to produce electricity for sale to the Electric Reliability Council of Texas (ERCOT) power grid. Each CTG has an approximate maximum base-load electric power output of 230.7 MW. The maximum electric power output from each steam turbine is approximately 336 MW. The units may operate at reduced load to respond to changes in system power requirements and/or stability.		889.0	LB CO2/MWH, GROSS	APPLIES WITH OR WITHOUT DB; INCLUDES MSS	4.80E+01	TON CO2/HR PER EVENT	MSS	0		
*TX-0766	GOLDEN PASS LNG EXPORT TERMINAL	9/11/2015	Refrigeration Compression Turbines	natural gas	15.6	MMtpy	Six GE Frame 7 Turbines at site.	Equipment specifications & work practices - Good combustion practices and use of low carbon fuel	614,533.0	TPY		0.00E+00			0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	COMBUSTION TURBINES, (2)	Natural Gas	593	MMBTU/H	Burns primarily natural gas but has the capacity to burn up to 500 hours of ultra low sulfur diesel fuel (ULSD) as backup.	Controlled by the use of low carbon fuels and high efficiency design. The heat rate shall be no greater than 8,983 Btu/kW-h (HHV, gross).	295,961.0	T/YR	12 MO ROLLING AVG	1.05E+03	LB/MWH	12 MO AVERAGE	0		
*VA-0321	BRUNSWICK COUNTY POWER STATION	3/12/2013	COMBUSTION TURBINE GENERATORS, (3)	Natural Gas	3442	MMBTU/H	Four GE 7FA combined cycle turbines, dry low NOx burners and selective catalytic reduction. These limits are for each of the 4 turbines individually, while operating with the duct burners on. This permit is a modification to RBLC OH-0252 to remove hourly restrictions on duct burners.	Energy efficient combustion practices and low GHG fuels.	7,500.0	BTU/KW-H		0			0		
	Footprint Power Salem Harbor Development LP		Combustion Turbine	Natural Gas	346	MW			825.0	lb/MW-hr	Duct Burners Off	8.95E+02	lb/MW-hr	365 day rolling average			
	Kalama Energy Center		Combustion Turbine	Natural Gas	2247	MMBtu/hr			858.0	lb/Mwhe	12-mo rolling average	1.20E+06	tpy	12-mo rolling total			
	Gibson County Generation, LLC		Combustion Turbine	Natural Gas	417	MW			1,679,459.0	tpy							
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2016	MMBtu/hr			825.0	lb/MWh				Not to exceed within 180 days during startup			
	Pioneer Valley Energy Center		Combustion Turbine	Natural Gas	2016	MMBtu/hr			895.0	lb/MWh				Not to exceed following 365 days after startup.			
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			242.0	metric tons/hr		5.80E+03	metric tons/day				
	Russell City Energy Company, LLC		Combustion Turbine	Natural Gas	2038.6	MMBtu/hr			7,730.0	Btu/kWhr							
	Tenaska Partners LLC		Combustion Turbine	Natural Gas	3147	MMBtu/hr			876.0	lb/MWh		1.88E+06	tpy				
	Huntington Beach Energy Project		Combustion Turbine	Natural Gas	939	MW (net)			0.5	MTCO2/MWh							
	York Energy Center Block 2	6/15/2015			2512.5	MMBtu/hr	firing NG without duct burner		880.0	lb/MW-hr							

Table D-B-1
Nitrogen Oxides (NO_x) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Auxiliary Boiler, 99.8 MMBtu/hr	Natural gas	99.8	MMBtu/hr	Fires only natural gas. Limited to 2000 hr/yr.	Low-NOx burners	0.05	LB/MMBTU		0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	NATURAL GAS AUXILIARY BOILERS (EU-012A, EU-012B, EU-012C)	NATURAL GAS	218.6	MMBTU/H		LOW NOX BURNERS WITH FLUE GAS RECIRCULATION AND GOOD COMBUSTION PRACTICES	20.4	LB/MMCF EACH	3 HOUR AVERAGE	1877.39	MMCF/12 MONTH EACH	ROLLING AVERAGE	0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Auxiliary Boilers and Superheaters	Natural Gas	0		Supplement fuel: fuel gas Boilers: 225 MM BTU/hr each	SCR	0.015	LBS/MM BTU	30 ROLLING AVG., EXCEPT SCR SU OR MAINT.	0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Auxiliary boilers	natural gas	171	mm btu/hr		Low Nox burners	0			0			0		
MI-0420	DTE GAS COMPANY – MILFORD COMPRESSOR STATION	6/3/2016	FGAUXBOILERS	Natural gas	6	MMBTU/H	Two natural gas-fired auxiliary boilers, each rated at 6 MMBTU/H fuel heat input. The boilers are identified as EUAUXBOIL2 and EUAUXBOIL3 within the flexible group FGAUXBOILERS. The boilers are subject to 40 CFR Part 63 Subpart DDDDD, which requires tune ups.	Ultra low NOx burners and good combustion practices.	14	PPMVOL	AT 15%O2; TEST PROTOCOL	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Auxiliary Boiler)	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Low NOx burners/Flue gas recirculation and good combustion practices.	0.04	LB/MMBTU	30 DAY ROLLING AVG TIME PERIOD	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	EUAUXBOILER (Auxiliary boiler)	natural gas	83.5	MMBTU/H	One natural gas fired auxiliary boiler rated at 83.5 MMBTU/hr fuel heat input (EUAUXBOILER).	Low NOx burners/Internal flue gas recirculation and good combustion practices.	0.05	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0426	DTE GAS COMPANY - MILFORD COMPRESSOR STATION	3/24/2017	FGAUXBOILERS (6 auxiliary boilers EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B, EUAUXBOIL3B, EUAUXBOIL2C, EUAUXBOIL3C)	Natural gas	3	MMBTU/H	Four natural gas-fired auxiliary boilers, each rated at 3 MMBTU/H fuel heat input (EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B and EUAUXBOIL3B in FGAUXBOILERS) and two natural gas-fired auxiliary boilers, each rated at 1 MMBTU/H fuel heat input (EUAUXBOIL2C and EUAUXBOIL3C in FGAUXBOILERS). The boilers are subject to 40 CFR Part 63 Subpart DDDDD which requires tune ups.	Ultra-low NOx burners and good combustion practices.	20	PPM AT 3% O2	EACH 3 MMBTU/H BOILER	9	PPM AT 3% O2	EACH 1 MMBTU/H BOILER	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (North Plant): Auxiliary Boilder	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Low NOx burners/flue gas recirculation and good combustion practices.	0.04	LB/MMBTU	30-DAY ROLLING AVG TIME PERIOD	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (South Plant): Auxiliary Boiler	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Low NOx burners/flue gas recirculation and good combustion practices.	0.04	LB/MMBTU	30 DAY ROLLING AVG TIME PERIOD	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUAUXBOILER: Auxiliary Boiler	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Low NOx burners/Flue gas recirculation.	0.036	LB/MMBTU	HOURLY	3.6	LB/H	HOURLY	0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	Auxiliary Boiler	Natural Gas	77.8	mmBtu/hr	Annual emission based on 4600 hours/year.	LNB, FGR, Good Combustion Practices	0.86	LB/HR		1.96	TONS/YEAR		0.0011	LB/MMBTU	
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.	Selective Catalytic Reduction	7	PPMVD @ 15% O2	3-HR AVG @ 15 % O2	0			0		
AL-0230	THYSSENKRUPP STEEL AND STAINLESS USA, LLC	8/17/2007	3 NATURAL GAS-FIRED BOILERS WITH ULNB & EGR (537-539)	NATURAL GAS	64.9	MMBTU each	THIS PROCESS IS COVERED UNDER 503-0095-X026.	ULNB & EGR (ULTRA-LOW NOX BURNERS (ULNB)(EXHAUST GAS RECIRCULATION (EGR) Â¿ SAME FLUE GAS RECIRCULATION (FGR)	0.035	LB/MMBTU		2.27	LB/H		0		
AL-0231	NUCOR DECATUR LLC	6/12/2007	VACUUM DEGASSER BOILER	NATURAL GAS	95	MMBTU/H		ULTRA LOW NOX BURNERS	0.035	LB/MMBTU		3.33	LB/H		0		
AR-0090	NUCOR STEEL, ARKANSAS	4/3/2006	PICKLE LINE BOILERS, SN-52	NATURAL GAS	12.6	MMBTU EACH		LOW NOX BURNERS	2.9	LB/H		12.4	T/YR		0.075	LB/MMBTU	
CA-1127	GENENTECH, INC.	9/27/2005	BOILER: >= 50 MMBTU/H	NATURAL GAS	97	MMBTU/H	EQUIP: WATERTUBE, MFR: NEBRASKA BOILER, INC., TYPE: STEAM BOILER, MODEL: NS-E-64-ST-CA-HM-AL, FUNC EQUIP: PROVIDE STEAM AND HOT WATER., FUEL_TYPE: MAY INSTALL DIESEL OIL BACKUP IN FUTURE., SCHEDULE: CONTINUOUS, H/D: 24, D/W: 7, W/Y: 52, NOTES: THREE IDENTICAL STEAM BOILERS INSTALLED. FACILITY CONSIDERING ADDING BACK-UP DIESEL OIL FIRING CAPABILITY FOR EMERGENCY USE. SOURCE TEST RESULTS: SOURCE TEST RESULTS PENDING.	ULTRA LOW NOX BURNERS: NATCOM P-97-LOG-35-2127	9	PPMVD @ 3% O2	THREE 30-MIN SAMP PERIODS AV	0			0		
CA-1128	COTTAGE HEALTH CARE - PUEBLO STREET	5/16/2006	BOILER: 5 TO < 33.5 MMBTU/H	NATURAL GAS	25	MMBTU/H (75 MMBTU/H	EQUIP: THREE 25 MMBTU/H STEAM BOILERS WITH FUEL OIL (AMBER 363) BACKUP, MFR: CLEAVER-BROOKS, TYPE: STEAM BOILER, MODEL: 4WI700-600-150ST, FUNC EQUIP: PROVIDES HEAT TO A NEW HOSPITAL, FUEL_TYPE: BACKUP WITH AMBER 363 (BACT) UP TO 192 HRS/YR, SCHEDULE: CONTINUOUS, H/D: 24, D/W: 7, W/Y: 52, NOTES: BACT FOR BACKUP FUEL OIL IS: USE OF LOW NITRIGEN FUEL (AMBER 363) AND A LOW NOX BURNER. NOX BACT IS 40 PPMVD AT 3% O2 AND CO BACT IS 50 PPMVD AT 3% O2. SOURCE TEST RESULTS:	ULTRA-LOW NOX BURNER	9	PPMVD @ 3% O2	6-MIN AV	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	AUXILIARY BOILER	NATURAL GAS	35	MMBTU/H		OPERATIONAL RESTRICTION OF 500 HR/YR	9	PPMVD @ 3% O2	1-HR AVG, @3% O2	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	AUXILIARY BOILER	NATURAL GAS	37.4	MMBTU/H		ULTRA LOW NOX BURNER, USE PUC QUALITY NATURAL GAS, OPERATIONAL RESTRICTION OF 46, 675 MMBTU/YR	9	PPMVD @ 3% O2	3-HR AVG, @3% O2	0			0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	TWO 99.8 MMBTU/H GAS-FUELED AUXILIARY BOILERS	NATURAL GAS	99.8	MMBTU/H	PRODUCE 85,000 LB/HR STEAM EACH		0.05	LB/MMBTU		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Low NOx Burner and Flue Gas Recirculation	0.036	LB/MMBTU		0			0		
GA-0130	KIA MOTORS MANUFACTURING GEORGIA	7/27/2007	BOILERS AND HEATERS	NATURAL GAS			BOILERS AND HEATERS	LOW NOX BURNERS ON BOILER BURNERS	30	PPMVD @ 3% O2	BOILERS	0.09	LB/MMBTU	HEATERS	0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period	use of natural gas	0.013	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	LOW NOX BURNER WITH FLUE GAS RECIRCULATION	0.032	LB/MMBTU	3 HOURS	2.56	LB/H	3 HOURS	0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr		ultra low NOx burners	0.011	LB/MMBTU	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	9	PPMVD @ 3% O2	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0		

Table D-B-1
Nitrogen Oxides (NO_x) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
MD-0037	MEDIMMUNE FREDERICK CAMPUS	1/28/2008	FOUR (4) NATURAL GAS BOILERS EACH RATED AT 29.4 MILLION BTU PER HOUR	NATURAL GAS	29.4	MMBTU/H	EACH OF THE FOUR BOILERS BURN NATURAL GAS WITH NO. 2 FUEL OIL AS A BACK UP FUEL (FUEL OIL LIMITS ARE LISTED AS A SEPARATE PROCESS).	ULTRA LOW NOX BURNERS ON EACH OF THE FOUR IDENTICAL BOILERS	9	PPMVD @ 3% O2	VOL., DRY BASIS, CORR. TO 3% O2	0			0.011	LB/MMBTU	
MD-0040	CPV ST CHARLES	11/12/2008	BOILER	NATURAL GAS	93	MMBTU/H	AUXILIARY BOILER	LOW NOX WITH FGR	0.011	LB/MMBTU	3-HR AVERAGE	0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	AUXILLARY BOILER	NATURAL GAS	93	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF LOW-NOX BURNER TECHNOLOGY, FLUE GAS RECIRCULATION (FGR), GOOD COMBUSTION CONTROLS, MAX HEAT INPUT OF 372,000 MMBTU/HR	EXCLUSIVE USE OF NATURAL GAS, ULTRA LOW-NOX BURNERS, AND FLUE GAS RECIRCULATION (FGR)	0.011	LB/MMBTU	3-HOUR AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.01	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat input each	natural gas	100	MMBTU/H heat input each	There are two auxiliary boilers each rated at less than 100 MMBTU/H heat input. Fuel usage limited to not more than 416.3 MMscf of natural gas in each boiler per 12-month rolling timeperiod as determined at the end of each month.	Low NOx burners and flue gas recirculation.	0.05	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler B (EUAUXBOILERB)	natural gas	95	MMBTU/H	One natural gas-fired auxiliary boiler rated at 95 MMBtu/hr fuel heat input (EUAUXBOILERB within flexible group FGAUXBOILERS).	Dry low NOx burners, flue gas recirculation and good combustion practices.	0.05	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler A (EUAUXBOILERA)	natural gas	55	MMBTU/H	One natural gas-fired auxiliary boiler rated at 55 MMBTU/hr fuel heat input (EUAUXBOILERA within flexible group FGAUXBOILERS).	Low NOx burners and good combustion practices	0.05	LB/MMBTU	TEST PROTOCOL	0			0		
NH-0015	CONCORD STEAM CORPORATION	2/27/2009	BOILER 3 (AUXILIARY)	NATURAL GAS	76.8	MMBTU/H	AUXILIARY BOILERS 2 AND 3 PROVIDE BACKUP STEAM TO THE CITY OF CONCORD STEAM DISTRICT (MOSTLY PROVIDES BUILDING HEAT TO BUSINESSES IN THE DOWNTOWN AREA OF CONCORD) WHEN BOILER 1 IS OUT OF SERVICE FOR SCHEDULED AND UNSCHEDULED MAINTENANCE.	LOW NOX BURNERS, FLUE GAS RECIRCULATION, AND LESS THAN 700 HOURS OF OPERATION PER CONSECUTIVE 12 MONTH PERIOD.	0.032	LB/MMBTU	AVERAGE OF 3 1-HOUR TEST RUNS	0			0.032	LB/MMBTU	AVERAGE OF 3 1 HOUR TEST RUNS
NH-0015	CONCORD STEAM CORPORATION	2/27/2009	BOILER 2 (AUXILIARY)	NATURAL GAS	76.8	MMBTU/H	AUXILIARY BOILERS 2 AND 3 PROVIDE BACKUP STEAM FOR THE CITY OF CONCORD STEAM DISTRICT (MOSTLY BUILDING HEAT IN DOWNTOWN CONCORD) WHEN BOILER 1 IS OUT OF SERVICE FOR SCHEDULED AND UNSCHEDULED MAINTENANCE WORK.	LOW NOX BURNERS, FLUE GAS RECIRCULATION, AND LESS THAN 700 HOURS OPERATION PER CONSECUTIVE 12 MONTH PERIOD.	0.032	LB/MMBTU	AVERAGE OF 3 1 HOUR TEST RUNS	0			0.032	LB/MMBTU	AVERAGE OF 3 1 HOUR TEST RUNS
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Commercial/Institutional size boilers less than 100 MMBtu/hr	natural gas	91.6	MMBtu/hr	The auxiliary boiler will have a maximum rated heat capacity of 91.6 MMBtu/h and will be limited to natural gas firing only. It will be operated for the purposes of supplying steam during the start-up of the combined cycle unit. The auxiliaryboiler will be equipped with Dry Low-NOx Burners to comply with BACT and LAER.	Low NOx burners	0.01	LB/MMBTU	AVERAGE OF THREE TESTS	0.92	LB/H	AVERAGE OF THREE TESTS	0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Boiler less than 100 MMBtu/hr	Natural Gas	51.9	mmcubic ft/year		Low NOx burners and flue gas recirculation	0.05	LB/MMBTU	AVERAGE OF THREE TESTS	0.66	LB/H	AVERAGE OF THREE TESTS	0		
NV-0044	HARRAH'S OPERATING COMPANY, INC.	1/4/2007	COMMERCIAL/INSTITUTIONAL-SIZE BOILERS	NATURAL GAS	35.4	MMBTU/H	THE BACT DETERMINATIONS REPORTED HERIN ARE SPECIFICALLY FOR THE TWO HURST BOILERS INSTALLED AT CAESAR'S PALACE. EACH OF THEM HAS A RATED HEAT INPUT OF 35.4 MMBTU/HR. THE PERMITTING ACTION ALSO APPROVED THE INSTALLATION OF A NUMBER OF SMALL BOILERS, ALL OF WHICH HAVE A RATED HEAT INPUT BELOW THE THRESHOLD OF INSTITUTIONAL SIZE. NATURAL GAS IS THE ONLY FUEL USED FOR ALL BOILERS FOR THIS FACILITY. THE TOTAL INCREASE OF RATED HEAT INPUT FOR ALL THE NEW BOILERS IS 100.7 MMBTU/HR. THE TWO NEW HURST BOILERS HAVE THE COMBINED RATED HEAT INPUT OF 70.8 MMBTU/HR, ACCOUNTING FOR 70% OF THE TOTAL INCREASE.	LOW-NOX BURNER AND FLUE GAS RECIRCULATION	0.035	LB/MMBTU		29	PPMVD @ 3% O2	3% OXYGEN	0.035	LB/MMBTU	
NV-0047	NELLIS AIR FORCE BASE	2/26/2008	BOILERS/HEATERS - NATURAL GAS-FIRED	NATURAL GAS			THE FACILITY HAS 125 REGULATED UNITS AND 142 EXEMPT UNITS. UNIT RB013 (RITE BOILER, 6.5 MMBTU/HR) IS SELECTED TO SHOW THE BACT DETERMINATIONS.	LOW-NOX BURNER AND FLUE GAS RECIRCULATION	0.03	LB/MMBTU		25	PPMVD @ 3% O2	3% OXYGEN	0.03	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT HA08	NATURAL GAS	8.37	MMBTU/H	THE EMISSION UNIT IS A CLEAVER BROOKS BOILER AT HARRAHS LAS VEGAS. UNIT HA08 IS IDENTICAL TO HA09 AND HA10. THE SAME SET OF EMISSION LIMITS APPLIES TO EACH OF THE THREE BOILERS. THE THREE BOILERS ARE SUBJECT TO THE LIMIT OF TOTAL ANNUAL OPERATING TIME FOR 20,000 HOURS PER YEAR. THERE ARE NO BOILERS AT HARRAHS LAS VEGAS, WHICH HAS A THROUGHPUT CAPACITY IN EXCESS OF 10 MMBTU/HR. NO BACT DETERMINATIONS FOR ANY EMISSION UNITS AT BILL'S GAMBLIN' HALL & SALON ARE REPORTED HEREIN BECAUSE ALL OF THEM HAVE A VERY SMALL POTENTIAL TO EMIT FOR ANY POLLUTANT.	EQUIPPED WITH A LOW-NOX BURNER	0.0146	LB/MMBTU		12	PPMVD @ 3% O2	CORRECTED AT 3% OXYGEN	0.0146	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT FL01	NATURAL GAS	14.34	MMBTU/H	UNIT FL01 IS A JOHNSTON BOILER AT FLAMINGO LAS VEGAS. THIS UNIT MAY OPERATE 8,760 HOURS PER YEAR.	LOW NOX BURNER AND FLUE GAS RECIRCULATION	0.0353	LB/MMBTU		29	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0353	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA01	NATURAL GAS	16.8	MMBTU/H	UNIT BA01 IS A KEWANEE BOILER AT BALLY'S LAS VEGAS. UNIT BA01 IS IDENTICAL TO UNIT BA02. THE TWO BOILERS ARE SUBJECT TO THE ANNUAL LIMIT OF COMBINED TOTAL OPERATING TIME FOR 10,900 HOURS PER YEAR.	LOW-NOX BURNER AND BLUE GAS RECIRCULATION	0.03	LB/MMBTU		25	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.03	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA03	NATURAL GAS	31.38	MMBTU/H	UNIT BA03 IS A KIWANEE BOILER AT BALLY'S LAS VEGAS. THE ANNUAL OPERATING TIME IS LIMITED TO 2,920 HOURS PER YEAR.	LOW-NOX BURNER	0.0306	LB/MMBTU		25	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0306	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP01	NATURAL GAS	35.4	MMBTU/H	UNIT CP01 IS A HURST BOILER AT CAESAR'S PALACE. UNIT CP01 IS IDENTICAL TO UNIT CP02. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	LOW NOX BURNER	0.035	LB/MMBTU		29	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.035	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP03	NATURAL GAS	33.48	MMBTU/H	UNIT CP03 IS A BURNHAM BOILER AT CAESAR'S PALACE. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	LOW NOX BURNER	0.0367	LB/MMBTU		30	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0367	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP26	NATURAL GAS	24	MMBTU/H	UNIT CP26 IS A UNILUX BOILER AT CAESAR'S PALACE. THE UNIT IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	LOW NOX BURNER	0.0108	LB/MMBTU		9	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0108	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT PA15	NATURAL GAS	21	MMBTU/H	UNIT PA15 IS A BRYAN BOILER AT PARIS CASINO RESORT. UNIT PA15 IS IDENTICAL TO UNIT PA16. UNIT PA14 IS A BRYAN BOILER RATED AT 17.0 MMBTU/HR. EACH OF THE THREE BOILERS IS SUBJECT TO THE LIMIT OF ANNUAL OPERATING TIME FOR 4,380 HOURS PER YEAR. THEY SHARE THE SAME BACT DETERMINATIONS ON THE PER MMBTU BASIS.	LOW NOX BURNER	0.0366	LB/MMBTU		30	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0366	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT IP04	NATURAL GAS	16.7	MMBTU/H	UNIT IP04 IS A KEWANEE BOILER AT IMPERIAL PALACE. UNIT IP04 IS IDENTICAL TO UNIT IP05. EITHER BOILER IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	LOW NOX BURNER	0.049	LB/MMBTU		40.2	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0049	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC001, CC002, AND CC003 AT CITY CENTER	NATURAL GAS	41.64	MMBTU/H	THE THREE UNITS ARE IDENTICAL NEBRASKA BOILERS, EACH OF WHICH IS RATED AT 41.64 MMBTU/HR. EACH UNIT IS ALLOWED TO OPERATE 24 HOURS/DAY AND UP TO 5,800 HOURS/ YEAR. THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	LOW NOX BURNER AND FLUE GAS RECIRCULATION	0.011	LB/MMBTU		9	PPMVD @ 3% O2	CORRECTED TO 3.0% OXYGEN	0.011	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC026, CC027 AND CC028 AT CITY CENTER	NATURAL GAS	44	MMBTU/H	THE THREE UNITS ARE IDENTICAL CATERPILLAR BOILERS, EACH RATED AT 44 MMBTU/HR. EACH UNIT IS SUBJECT TO THE ANNUAL LIMIT OF OPERATING TIME TO 5,800 HOURS. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #13 DATED NOVEMBER 30, 2009.	LOW NOX BURNER AND GOOD COMBUSTION PRACTICES	0.0109	LB/MMBTU		9	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0109	LB/MMBTU	
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	AUXILIARY BOILER	NATURAL GAS	29.4	MMBTU/H	4800 H/YR	LOW NOX BURNERS & FLUE GAS RECIRCULATION	0.011	LB/MMBTU		0			0		
OH-0309	TOLEDO SUPPLIER PARK-PAINT SHOP	5/3/2007	BOILER (2), NATURAL GAS	NATURAL GAS	20.4	MMBTU/H	TWO BOILERS WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION. WITH #2 OIL BACKUP TWO SET OF LIMITS, THIS ONE FOR NATURAL GAS	LOW NOX BURNERS AND FLUE GAS RECIRCULATION	0.72	LB/H		3.5	T/YR		0.035	LB/MMBTU	
OH-0323	TITAN TIRE CORPORATION OF BRYAN	6/5/2008	BOILER	NATURAL GAS	50.4	MMBTU/H			2.47	LB/H		10.82	T/YR		50	LB/MMSCF	AP-42 FACTOR
*OH-0350	REPUBLIC STEEL	7/18/2012	Steam Boiler	Natural Gas	65	MMBtu/H	Natural Gas-fired stam boiler to vacuum tank degasser		0.07	LB/MMBTU		0			0		

Table D-B-1
Nitrogen Oxides (NO_x) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Auxillary Boiler	Natural Gas	99	MMBtu/H	99 MMBTU/H auxillary boiler with low-NOx burners and flue gas re-circulation, burning only natural gas. Boiler restricted to 2000 hours of operation per rolling 12-months.	low NOx burners and flue gas recirculation	1.98	LB/H		1.98	T/YR	PER ROLLING 12-MONTHS	0.02	LB/MMBTU	
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	AUXILIARY BOILER	NATURAL GAS	33.5	MMBTU/H		LOW-NOX BURNERS	0.07	LB/MMBTU		2.36	LB/H		0		
OK-0135	PRYOR PLANT CHEMICAL	2/23/2009	BOILERS #1 AND #2	NATURAL GAS	80	MMBTU/H	THE BOILERS WILL PROVIDE THE STEAM NEEDED TO OPERATE THE VARIOUS PIECES OF EQUIPMENT AT THE FACILITY.	LOW-NOX BURNERS AND GOOD COMBUSTION PRACTICES	4	LB/H	3-H/168-H ROLLING CUMMULATIVE	0.2	LB/MMBTU	STATE LIMIT	0		
OK-0137	PONCA CITY REFINERY	2/9/2009	TB-1 Leased Boiler No. 1	Natural Gas	95	MMBTU/H		Ultra-low NOx burners (0.036lb/mmbtu)	3.42	LB/H	365 DAY ROLLING AVERAGE	15	T/YR	365 DAY ROLLING AVERAGE	0		
OK-0137	PONCA CITY REFINERY	2/9/2009	TB-2 Leased Boiler No.2	Natural Gas	95	MMBTU/H		ULNB- Ultra-low NOx burners , 0.036lb/mmbtu	3.42	LB/H	365 DAY ROLLING AVERAGE	15	T/YR	365 DAY ROLLING AVERAGE	0		
OR-0048	CARTY PLANT	12/29/2010	NATURAL GAS-FIRED BOILER	NATURAL GAS	91	MMBTU/H		LOW NOX BURNERS	4.5	LB/H		0			0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Auxiliary boiler	natural gas	39.8	MMBtu/hr		Utilize Low-NOx burners and FGR.	0.035	LB/MMBTU	3-HR BLOCK AVERAGE	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			0.011	LB/MMBTU		1.01	T/YR	12-MONTH ROLLING TOTAL	0		
SC-0112	NUCOR STEEL - BERKELEY	5/5/2008	VACUUM DEGASSER BOILER	NATURAL GAS	50.21	MMBTU/H		ULTRA-LOW NOX NATURAL GAS FIRED BURNERS	0.035	LB/MMBTU		1.76	LB/H		0.035	LB/MMBTU	
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU003	NATURAL GAS	46	MMBTU/H			0.036	LB/MMBTU	3-HOUR	1.66	LB/H	1-HOUR	0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU004	NATURAL GAS	46	MMBTU/H			0.036	LB/MMBTU	3-HOUR	1.66	LB/H	1-HOUR	0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU005	NATURAL GAS	46	MMBTU/H			0.036	LB/MMBTU	3-HOUR	1.66	LB/H	1-HOUR	0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU006	NATURAL GAS	46	MMBTU/H			0.036	LB/MMBTU	3-HOUR	1.66	LB/H	1-HOUR	0		
*TN-0160	VOLKSWAGEN GROUP OF AMERICA, CHATTANOOGA OPERATIONS	10/10/2008	NATURAL GAS-FIRED BOILERS (3)	NATURAL GAS	24	MMBTU/H	THROUGHPUT IS HEAT INPUT FOR EACH BOILER.	LOW-NOX BURNERS, FLUE GAS RECIRCULATION	30	PPMVD @ 3% O2	3% O2 DRY BASIS	0			0		
TX-0501	TEXSTAR GAS PROCESS FACILITY	7/11/2006	POWER STEAM BOILER	NATURAL GAS	93	MMBTU/H			8.39	LB/H		7.03	T/YR		0		
TX-0575	SABINA PETROCHEMICALS LLC	8/20/2010	BOILER	NATURAL GAS	228	SCF/H	THE BOILER, EPN BLR, HAS SCR WITH LOW NOX BURNERS, A NOX LONG-TERM EMISSION FACTOR OF 0.007 LB NOX /MMBTU AND A SHORT-TERM EMISSION FACTOR OF 0.020 LB NOX /MMBTU TO ACCOMMODATE FOR HOT STANDBY. BECAUSE OF THE LOW ANNUAL EMISSION FACTOR, THIS WAS ACCEPTED AS LAER.	LOW NOX BURNERS AND SCR	0.02	LB/MMBTU	HOURLY	0.007	LB/MMBTU	ANNUAL	0		
*TX-0713	TENASKA BROWNSVILLE GENERATING STATION	4/29/2014	boiler	natural gas	90	MMBtu/hr	50% annual capacity factor	ultra low-NOx burners, limited use	9	PPMVD @ 15% O2	@15% O2	0			0		
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	boiler	natural gas	80	MMBtu/hr	operation limitation of 4,000 hours per year	low-NOx burners	0.036	LB/MMBTU	3-HR ROLLING	0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	40	MMBtu/hr	Hot oil heater	Low NOx burners	0.036	LB/MMBTU		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	95.7	MMBtu/hr	Three boilers will be used intermittently to provide steam for heating tanks or railcars as necessary to reduce viscosity of heavy liquids.	Low NOx burners and flue gas recirculation	0.011	LB/MMBTU		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	13.2	MMBtu/hr	Boiler will be operated continuously to maintain system temperatures in the intermittent boilers and heavy liquid storage tanks.		0.1	LB/MMBTU		0			0		
*WY-0075	CHEYENNE PRAIRIE GENERATING STATION	7/16/2014	Auxiliary Boiler	natul gas	25.06	MMBtu/h		Ultra low NOx burners and flue gas recirculation	0.0175	LB/MMBTU	3 HOUR AVERAGE	0.4	LB/H	3 HOUR AVERAGE	0		
LA-0240	FLOPAM INC.	6/14/2010	Boilers	natural gas	25.1	MMBTU/H		Ultra Low NOx Burners	0.38	LB/H	HOURLY MAXIMUM	9	PPMVD @ 3% O2	(2) OR (1)	0.015	LB/MMBTU	(1) OR (2)
*MI-0393	RAY COMPRESSOR STATION	10/14/2010	Auxiliary Boiler	natural gas	12.25	MMBTU/H	Boiler provides building heat.	Low NOx burner.	0.43	LB/H	TEST METHOD	0.035	LB/MMBTU		0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr		Use of natural gas	1.01	T/YR	12-MONTH ROLLING TOTAL	0			0		
	Astoria Energy LLC		Auxiliary Boiler	Natural Gas	99	MMBtu/hr		Clean Fuel	0.011	LB/MMBTU	1-hr average	1.09	LB/H	3-hour block average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.88	LB/H	1-hr average	0.011	lb/MMBtu	1-hr average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	9	PPMVD @ 15% O2	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Low NOx burners and flue gas re circulation.	0.045	LB/MMBTU	1-hr average						
	Cricket Valley Energy Center		Auxiliary Boiler	Natural Gas	48.63	MMBtu/hr			0.011	LB/MMBTU							
	Pioneer Valley Energy Center		Auxiliary Boiler	Natural Gas	21	MMBtu/hr			0.029	LB/MMBTU		0.58	LB/H				
	Tenaska Partners LLC		Auxiliary Boiler	Natural Gas	245	MMBtu/hr			0.011	LB/MMBTU		5.76	T/YR	12-month rolling			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			0.036	LB/MMBTU	12 month-period	3.82	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			7.6	T/YR							
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			0.085	LB/MMBTU	12 month-period	1.27	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			5.25	T/YR							
	Kalama Energy Center		Auxiliary Boiler	Natural Gas	159870	MMBTU per 12 mo rolling			12	PPMVD @ 3% O2	1-hr avg	0.54	LB/H	1-hr avg			
	LAWRENCE ENERGY CENTER LLC		Auxiliary Boiler	Natural Gas	99	MMBTU/hr			0.05	LB/MMBTU		4.95	LB/H	12 month-period			
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #1	Natural Gas	61.2	MMBTU/hr			0.017	LB/MMBTU	3-hr						
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #2	Natural Gas	61.2	MMBTU/hr			0.017	LB/MMBTU	3-hr						
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 1	Natural Gas	140.196	MCF/hr			0.55	LB/MMBTU							
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 2	Natural Gas	140.196	MCF/hr			0.55	LB/MMBTU							
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 6	Natural Gas	151.96	MCF/hr			0.55	LB/MMBTU							

Table D-B-1
Nitrogen Oxides (NO_x) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 8	Natural Gas	151.96	MCF/hr			0.55	LB/MMBTU							
	PA STATE UNIV/UNIV PARK CAMPUS		ECSP Boiler 1	Natural Gas	127.45	MCF/hr			0.2	LB/MMBTU		107.5	T/YR	any 12 mo			
	PA STATE UNIV/UNIV PARK CAMPUS		ECSP Boiler 2	Natural Gas	127.45	MCF/hr			0.2	LB/MMBTU		107.5	T/YR	any 12 mo			
	Sevier Power Company Power Plant		Auxiliary Boiler #2	Natural Gas	85	Mmbtu/hr			0.017	LB/MMBTU	3-hr						
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #5	Natural Gas	83	MMBtu/hr			0.032	LB/MMBTU	3-hr	2.56	LB/H	3-hr			
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr		Use of natural gas	0.0086	lb/MMBtu		2.3	T/YR				
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			2	LB/H		2	T/YR				

Table D-B-2
Carbon Monoxide (CO) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Auxiliary Boiler, 99.8 MMBtu/hr	Natural gas	99.8	MMBtu/hr	Fires only natural gas. Limited to 2000 hr/yr.	Proper combustion prevents CO	0.08	LB/MMBTU		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	99.8 MMBtu/hr auxiliary boiler	Natural gas	99.8	MMBtu/hr	Fueled only with natural gas.	Clean fuel	0.08	LB/MMBTU		0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	NATURAL GAS AUXILIARY BOILERS (EU-012A, EU-012B, EU-012C)	NATURAL GAS	218.6	MMBTU/H		GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION	37.22	LB/MMCF EACH	3 HOUR AVERAGE	1877.39	MMCF/12 MONTH EACH	ROLLING AVERAGE	0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Auxiliary Boilers and Superheaters	Natural Gas	0		Supplement fuel: fuel gas Boilers: 225 MM BTU/hr each	good engineering design and good combustion practices	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Auxiliary boilers	natural gas	171	mm btu/hr		good combustion practices	0			0			0		
MI-0420	DTE GAS COMPANY – MILFORD COMPRESSOR STATION	6/3/2016	FGAUXBOILERS	Natural gas	6	MMBTU/H	Two natural gas-fired auxiliary boilers, each rated at 6 MMBTU/H fuel heat input. The boilers are identified as EUAUXBOIL2 and EUAUXBOIL3 within the flexible group FGAUXBOILERS. The boilers are subject to 40 CFR Part 63 Subpart DDDDD, which requires tune ups.	Good combustion practices and clean burn fuel (pipeline quality natural gas)	0.08	LB/MMBTU	TEST PROTOCOL	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Auxiliary Boiler)	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Good combustion practices.	0.04	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	EUAUXBOILER (Auxiliary boiler)	natural gas	83.5	MMBTU/H	One natural gas fired auxiliary boiler rated at 83.5 MMBTU/hr fuel heat input (EUAUXBOILER).	Good combustion practices.	0.077	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0426	DTE GAS COMPANY - MILFORD COMPRESSOR STATION	3/24/2017	FGAUXBOILERS (6 auxiliary boilers EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B, EUAUXBOIL3B, EUAUXBOIL2C, EUAUXBOIL3C)	Natural gas	3	MMBTU/H	Four natural gas-fired auxiliary boilers, each rated at 3 MMBTU/H fuel heat input (EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B and EUAUXBOIL3B in FGAUXBOILERS) and two natural gas-fired auxiliary boilers, each rated at 1 MMBTU/H fuel heat input (EUAUXBOIL2C and EUAUXBOIL3C in FGAUXBOILERS). The boilers are subject to 40 CFR Part 63 Subpart DDDDD which requires tune ups.	Good combustion practices and clean burn fuel (pipeline quality natural gas).	84	LB/MMSCF	EACH BOILER	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (North Plant): Auxiliary Boilder	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices.	0.08	LB/MMBTU	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (South Plant): Auxiliary Boiler	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices.	0.08	LB/MMBTU	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUAUXBOILER: Auxiliary Boiler	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices	0.075	LB/MMBTU	HOURLY	7.49	LB/H	HOURLY	0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Auxiliary Boiler firing natural gas	natural gas	80	mmBtu/hr	Maximum heat input rate for natural gas fired auxiliary boiler is 80 MMBtu/hr (HHV) permitted to operate for 8760 hrs/yr.	Use of good combustion practices and use of natural gas a clean burning fuel	2.88	LB/H	AV OF THREE ONE H STACK TESTS	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	AUXILIARY BOILER	Natural GAS	4000	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL AND GOOD COMBUSTION PRACTICES	3.61	LB/H	AV OF THREE ONE H STACK TESTS INITIALLY	0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Auxiliary boiler	natural gas	60	MMBTU/H	Limited to 4,500 H/YR	good combustion practice	0.0375	LB/MMBTU	1 H	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Auxilary boiler	Natural Gas	92.4	MMBtu/hr	Operation of the auxiliary boiler shall not exceed 4000 hrs in any continuous 12-month period.	ULSD and good combustion practices	0.037	LB/MMBTU	AVG OF 3 1-HR TEST RUNS	6.84	TPY	12-MONTH ROLLING BASIS	0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	Auxiliary Boiler	Natural Gas	77.8	mmBtu/hr	Annual emission based on 4600 hours/year.	Good Combustion Practices	2.88	LB/HR		6.58	TONS/YEAR		0.037	LB/MMBTU	
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.		50	PPMVD @ 15% O2	3-HR AVG @ 15 % O2	0			0		
AL-0230	THYSSENKRUPP STEEL AND STAINLESS USA, LLC	8/17/2007	3 NATURAL GAS-FIRED BOILERS WITH ULNB & EGR (537-539)	NATURAL GAS	64.9	MMBTU each	THIS PROCESS IS COVERED UNDER 503-0095-X026.		0.04	LB/MMBTU		2.62	LB/H		0		
AR-0090	NUCOR STEEL, ARKANSAS	4/3/2006	PICKLE LINE BOILERS, SN-52	NATURAL GAS	12.6	MMBTU EACH		GOOD COMBUSTION PRACTICE	3.2	LB/H		13.9	T/YR		0.084	LB/MMBTU	
CA-1127	GENENTECH, INC.	9/27/2005	BOILER: >~ 50 MMBTU/H	NATURAL GAS	97	MMBTU/H	EQUIP: WATERTUBE, MFR: NEBRASKA BOILER, INC., TYPE: STEAM BOILER, MODEL: NS-E-64-ST-CA-HM-AL, FUNC EQUIP: PROVIDE STEAM AND HOT WATER., FUEL_TYPE: MAY INSTALL DIESEL OIL BACKUP IN FUTURE., SCHEDULE: CONTINUOUS, H/D: 24, D/W: 7, W/Y: 52, NOTES: THREE IDENTICAL STEAM BOILERS INSTALLED. FACILITY CONSIDERING ADDING BACK-UP DIESEL OIL FIRING CAPABILITY FOR EMERGENCY USE. SOURCE TEST RESULTS: SOURCE TEST RESULTS PENDING.	ULTRA LOW NOX BURNERS: NATCOM P-97-LOG-35-2127	50	PPMVD @ 3% O2	THREE 30-MIN SAMP PERIODS AV	0			0		
CA-1128	COTTAGE HEALTH CARE - PUEBLO STREET	5/16/2006	BOILER: 5 TO < 33.5 MMBTU/H	NATURAL GAS	25	MMBTU/H (75 MMBTU/H	EQUIP: THREE 25 MMBTU/H STEAM BOILERS WITH FUEL OIL (AMBER 363) BACKUP, MFR: CLEAVER-BROOKS, TYPE: STEAM BOILER, MODEL: 4WI700-600-150ST, FUNC EQUIP: PROVIDES HEAT TO A NEW HOSPITAL, FUEL_TYPE: BACKUP WITH AMBER 363 (BACT) UP TO 192 HRS/YR, SCHEDULE: CONTINUOUS, H/D: 24, D/W: 7, W/Y: 52, NOTES: BACT FOR BACKUP FUEL OIL IS: USE OF LOW NITRIGEN FUEL (AMBER 363) AND A LOW NOX BURNER. NOX BACT IS 40 PPMVD AT 3% O2 AND CO BACT IS 50 PPMVD AT 3% O2. SOURCE TEST RESULTS:	ULTRA-LOW NOX BURNER	50	PPMVD @ 3% O2	6-MIN AV	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	AUXILIARY BOILER	NATURAL GAS	35	MMBTU/H		OPERATIONAL RESTRICTION OF 500 HR/YR	50	PPMVD @ 3% O2	1-HR AVG, @3% O2	0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	AUXILIARY BOILER	NATURAL GAS	37.4	MMBTU/H		ULTRA LOW NOX BURNER, USE PUC QUALITY NATURAL GAS, OPERATIONAL RESTRICTION OF 46, 675 MMBTU/YR	50	PPMVD @ 3% O2	3-HR AVG, @3% O2	0			0		
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	ONE GASEOUS-FUELED 99 MMTU/HR AUXILIARY BOILER	NATURAL GAS	99	MMBTU/H			0.08	LB/MMBTU		400	PPMVD @ 3% O2		0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	TWO 99.8 MMBTU/H GAS-FUELED AUXILIARY BOILERS	NATURAL GAS	99.8	MMBTU/H	PRODUCE 85,000 LB/HR STEAM EACH		0.08	LB/MMBTU		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Good Combustion Practice	0.039	LB/MMBTU		0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period	CO catalytic oxidizer	0.0164	LB/MMBTU	AVERAGE OF 3 ON-HOUR TEST RUNS	0			0		

Table D-B-2
Carbon Monoxide (CO) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	GOOD COMBUTSTION PRACTICES	0.083	LB/MMBTU	3 HOURS	6.64	LB/H	3 HOURS	0		
LA-0240	FLOPAM INC.	6/14/2010	Boilers	natural gas	25.1	MMBTU/H		Good equipment design and proper combustion practices	0.93	LB/H	HOURLY MAXIMUM	0.037	LB/MMBTU		0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Oxidation catalyst	4.7	PPMVD @ 3% O2	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0.0035	LB/MMBTU	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0		
*MD-0041	CPV ST. CHARLES	4/23/2014	AUXILLARY BOILER	NATURAL GAS	93	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF LOW-NOX BURNER TECHNOLOGY, FLUE GAS RECIRCULATION (FGR), GOOD COMBUSTION CONTROLS, MAX HEAT INPUT OF 372,000 MMBTU/HR.	GOOD COMBUSTION PRACTICES	0.02	LB/MMBTU	3-HOUR AVERAGE BLOCK	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.036	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat input each	natural gas	100	MMBTU/H heat input each	There are two auxiliary boilers each rated at less than 100 MMBTU/H heat input. Fuel usage limited to not more than 416.3 MMscf of natural gas in each boiler per 12-month rolling timeperiod as determined at the end of each month.	Efficient combustion.	0.075	LB/MMBTU	HEAT INPUT. TEST PROTOCOL WILL SPECIFY	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler B (EUAUXBOILERB)	natural gas	95	MMBTU/H	One natural gas-fired auxiliary boiler rated at 95 MMBtu/hr fuel heat input (EUAUXBOILERB within flexible group FGAUXBOILERS).	Good combustion practices.	0.077	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler A (EUAUXBOILERA)	natural gas	55	MMBTU/H	One natural gas-fired auxiliary boiler rated at 55 MMBTU/hr fuel heat input (EUAUXBOILERA within flexible group FGAUXBOILERS).	Good combustion practices	0.077	LB/MMBTU	TEST PROTOCOL	0			0		
MN-0070	MINNESOTA STEEL INDUSTRIES, LLC	9/7/2007	SMALL BOILERS & HEATERS(<100 MMBTU/H)	NATURAL GAS	99	MMBTU/H			0.08	LB/MMBTU	1 HOUR AVERAGE	8.2	LB/H	1 HOUR AVERAGE	0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Commercial/Institutional size boilers less than 100 MMBtu/hr	natural gas	2000	hours/year	The auxiliary boiler will have a maximum rated heat capacity of 91.6 MMBtu/h and will be limited to natural gas firing only. It will be operated for the purposes of supplying steam during the start-up of the combined cycle unit. The auxiliaryboiler will be equipped with Dry Low-NOx Burners to comply with BACT and LAER.	Use of natural gas and good combustion practices	3.44	LB/H	AVERAGE OF THREE TEST'S	0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Boiler less than 100 MMBtu/hr	Natural Gas	51.9	mmcubic ft/year		use of natural gas a clean fuel	2.45	LB/H	AVERAGE OF THREE TEST'S	0			0		
NV-0044	HARRAH'S OPERATING COMPANY, INC.	1/4/2007	COMMERCIAL/INSTITUTIONAL-SIZE BOILERS	NATURAL GAS	35.4	MMBTU/H	THE BACT DETERMINATIONS REPORTED HERIN ARE SPECIFICALLY FOR THE TWO HURST BOILERS INSTALLED AT CAESAR'S PALACE. EACH OF THEM HAS A RATED HEAT INPUT OF 35.4 MMBTU/HR. THE PERMITTING ACTION ALSO APPROVED THE INSTALLATION OF A NUMBER OF SMALL BOILERS, ALL OF WHICH HAVE A RATED HEAT INPUT BELOW THE THRESHOLD OF INSTITUTIONAL SIZE. NATURAL GAS IS THE ONLY FUEL USED FOR ALL BOILERS FOR THIS FACILITY. THE TOTAL INCREASE OF RATED HEAT INPUT FOR ALL THE NEW BOILERS IS 100.7 MMBTU/HR. THE TWO NEW HURST BOILERS HAVE THE COMBINED RATED HEAT INPUT OF 70.8 MMBTU/HR, ACCOUNTING FOR 70% OF THE TOTAL INCREASE.	GOOD COMBUSTION DESIGN	0.036	LB/MMBTU		49	PPMVD @ 3% O2	3% OXYGEN	0.036	LB/MMBTU	
NV-0047	NELLIS AIR FORCE BASE	2/26/2008	BOILERS/HEATERS - NATURAL GAS-FIRED	NATURAL GAS			THE FACILITY HAS 125 REGULATED UNITS AND 142 EXEMPT UNITS. UNIT RB013 (RITE BOILER, 6.5 MMBTU/HR) IS SELECTED TO SHOW THE BACT DETERMINATIONS.	FLUE GAS RECIRCULATION	0.037	LB/MMBTU		50	PPMVD @ 3% O2	3% OXYGEN	0.037	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT FL01	NATURAL GAS	14.34	MMBTU/H	UNIT FL01 IS A JOHNSTON BOILER AT FLAMINGO LAS VEGAS. THIS UNIT MAY OPERATE 8,760 HOURS PER YEAR.	FLUE GAS RECIRCULATION	0.0705	LB/MMBTU		95	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0705	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA01	NATURAL GAS	16.8	MMBTU/H	UNIT BA01 IS A KEWANEE BOILER AT BALLY'S LAS VEGAS. UNIT BA01 IS IDENTICAL TO UNIT BA02. THE TWO BOILERS ARE SUBJECT TO THE ANNUAL LIMIT OF COMBINED TOTAL OPERATING TIME FOR 10,900 HOURS PER YEAR.	FLUE GAS RECIRCULATION	0.0173	LB/MMBTU		23	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0173	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA03	NATURAL GAS	31.38	MMBTU/H	UNIT BA03 IS A KIWANEE BOLER AT BALLY'S LAS VEGAS. THE ANNUAL OPERATING TIME IS LIMITED TO 2,920 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.	0.0172	LB/MMBTU		23	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0172	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP01	NATURAL GAS	35.4	MMBTU/H	UNIT CP01 IS A HURST BOILER AT CAESAR'S PALACE. UNIT CP01 IS IDENTICAL TO UNIT CP02. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0073	LB/MMBTU		29	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0073	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP03	NATURAL GAS	33.48	MMBTU/H	UNIT CP03 IS A BURNHAM BOILER AT CAESAR'S PALACE. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0075	LB/MMBTU		30	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0075	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP26	NATURAL GAS	24	MMBTU/H	UNIT CP26 IS A UNILUX BOILER AT CAESAR'S PALACE. THE UNIT IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.037	LB/MMBTU		50	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.037	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT PA15	NATURAL GAS	21	MMBTU/H	UNIT PA15 IS A BRYAN BOILER AT PARIS CASINO RESORT. UNIT PA15 IS IDENTICAL TO UNIT PA16. UNIT PA14 IS A BRYAN BOILER RATED AT 17.0 MMBTU/HR. EACH OF THE THREE BOILERS IS SUBJECT TO THE LIMIT OF ANNUAL OPERATING TIME FOR 4,380 HOURS PER YEAR. THEY SHARE THE SAME BACT DETERMINATIONS ON THE PER MMBTU BASIS.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.848	LB/MMBTU		114	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.848	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT IP04	NATURAL GAS	16.7	MMBTU/H	UNIT IP04 IS A KEWANEE BOILER AT IMPERIAL PALACE. UNIT IP04 IS IDENTICAL TO UNIT IP05. EITHER BOILER IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0074	LB/MMBTU		100	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0074	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC001, CC002, AND CC003 AT CITY CENTER	NATURAL GAS	41.64	MMBTU/H	THE THREE UNITS ARE IDENTICAL NEBRASKA BOILERS, EACH OF WHICH IS RATED AT 41.64 MMBTU/HR. EACH UNIT IS ALLOWED TO OPERATE 24 HOURS/DAY AND UP TO 5,800 HOURS/ YEAR. THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	GOOD COMBUSTION PROACTICES AND LIMITING THE FUEL TO NATURAL GAS ONLY	0.0184	LB/MMBTU		25	PPMVD @ 3% O2	CORRECTED TO 3.0% OXYGEN	0.0184	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC026, CC027 AND CC028 AT CITY CENTER	NATURAL GAS	44	MMBTU/H	THE THREE UNITS ARE IDENTICAL CATERPILLAR BOILERS, EACH RATED AT 44 MMBTU/HR. EACH UNIT IS SUBJECT TO THE ANNUAL LIMIT OF OPERATING TIME TO 5,800 HOURS. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #13 DATED NOVEMBER 30, 2009.	GOOD COMBUSTION PRACTICES INCLUDING THE USE OF PROPER AIR TO FUEL RATIO	0.0148	LB/MMBTU		20	PPMVD @ 3% O2	CORRECTED TO 3% OXYGEN	0.0148	LB/MMBTU	
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	AUXILIARY BOILER	NATURAL GAS	29.4	MMBTU/H	4800 H/YR	GOOD COMBUSTION PRACTICES	0.036	LB/MMBTU		0			0		
OH-0309	TOLEDO SUPPLIER PARK-PAINT SHOP	5/3/2007	BOILER (2), NATURAL GAS	NATURAL GAS	20.4	MMBTU/H	TWO BOILERS WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION. WITH #2 OIL BACKUP TWO SET OF LIMITS, THIS ONE FOR NATURAL GAS		1.7	LB/H		7.5	T/YR		0.083	LB/MMBTU	
OH-0323	TITAN TIRE CORPORATION OF BRYAN	6/5/2008	BOILER	NATURAL GAS	50.4	MMBTU/H			4.15	LB/H		18.18	T/YR		84	LB/MMSCF	AP-42 FACTOR
*OH-0350	REPUBLIC STEEL	7/18/2012	Steam Boiler	Natural Gas	65	MMBtu/H	Natural Gas-fired stam boiler to vacuum tank degasser	Proper burner design and good combustion practices	0.04	LB/MMBTU		11.4	T/YR		0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Auxillary Boiler	Natural Gas	99	MMBtu/H	99 MMBTU/H auxillary boiler with low-NOx burners and flue gas re-circulation, burning only natural gas. Boiler restricted to 2000 hours of operation per rolling 12-months.	Good combustion practices and using combustion optimization technology	5.45	LB/H		5.45	T/YR	PER ROLLING 12-MONTHS	0.055	LB/MMBTU	
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	AUXILIARY BOILER	NATURAL GAS	33.5	MMBTU/H		GOOD COMBUSTION	5.02	LB/H		0			0		
OK-0135	PRYOR PLANT CHEMICAL	2/23/2009	BOILERS #1 AND #2	NATURAL GAS	80	MMBTU/H	THE BOILERS WILL PROVIDE THE STEAM NEEDED TO OPERATE THE VARIOUS PIECES OF EQUIPMENT AT THE FACILITY.	GOOD COMBUSTION PRACTICES	6.6	LB/H	1-HOUR/8-HOUR	0			0		
OK-0137	PONCA CITY REFINERY	2/9/2009	TB-1 Leased Boiler No. 1	Natural Gas	95	MMBTU/H		Ultra-low NOx burners and good combustion practices, 0.04lb/mmbtu	3.8	LB/H	365 DAY ROLLING AVERAGE	16.6	T/YR	365 DAY ROLLING AVERAGE	0		

Table D-B-2
Carbon Monoxide (CO) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Auxiliary boiler	natural gas	39.8	MMBtu/hr		Utilize Low-NOx burners and FGR.	0.04	LB/MMBTU	3-HR BLOCK AVERAGE	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			0.036	LB/MMBTU		3.31	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr		Good Combustion Practices	3.31	T/YR	12-MONTH ROLLING TOTAL	0			0		
SC-0112	NUCOR STEEL - BERKELEY	5/5/2008	VACUUM DEGASSER BOILER	NATURAL GAS	50.21	MMBTU/H		NATURAL GAS COMBUSTION WITH GOOD COMBUSTION PRACTICES PER MANUFACTURER'S GUIDANCE	0.061	LB/MMBTU		3.06	LB/H		0.061	LB/MMBTU	
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU003	NATURAL GAS	46	MMBTU/H			0.039	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU004	NATURAL GAS	46	MMBTU/H			0.039	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU005	NATURAL GAS	46	MMBTU/H			0.039	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU006	NATURAL GAS	46	MMBTU/H			0.039	LB/MMBTU	3-HOUR	0			0		
TX-0501	TEXSTAR GAS PROCESS FACILITY	7/11/2006	POWER STEAM BOILER	NATURAL GAS	93	MMBTU/H			7.05	LB/H		5.91	T/YR		0		
*TX-0714	S R BERTRON ELECTRIC GENERATING STATION	12/19/2014	boiler	natural gas	80	MMBtu/hr	operation limitation of 4,000 hours per year	low-NOx burners	0.037	LB/MMBTU	3-HR ROLLING AVERAGE	0			0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Commercial/Institutional Size Boilers (<100 MMBtu) â€“ natural gas	natural gas	73.3	MMBtu/hr			50	PPMVD @ 3% O2	ROLLING 3-HR AVERAGE	0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	40	MMBtu/hr	Hot oil heater	Good combustion practice to ensure complete combustion.	50	PPMVD @ 3% O2		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	95.7	MMBtu/hr	Three boilers will be used intermittently to provide steam for heating tanks or railcars as necessary to reduce viscosity of heavy liquids.	Good combustion practice to ensure complete combustion.	50	PPMVD @ 3% O2		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	13.2	MMBtu/hr	Boiler will be operated continuously to maintain system temperatures in the intermittent boilers and heavy liquid storage tanks.	Good combustion practice to ensure complete combustion.	50	PPMVD @ 3% O2		0			0		
*WY-0075	CHEYENNE PRAIRIE GENERATING STATION	7/16/2014	Auxiliary Boiler	natul gas	25.06	MMBtu/h		good combustion	0.0375	LB/MMBTU	3 HOUR AVERAGE	0.9	LB/H	3 HOUR AVERAGE	0		
	Astoria Energy LLC		Auxiliary Boiler	Natural Gas	99	MMBtu/hr		Clean Fuel	0.02	LB/MMBTU	1-hr average	1.98	LB/H	1-hour average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG/ Oxidation Catalyst	0.28	LB/H	1-hr average	0.0035	lb/MMBtu	1-hr average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG/ Oxidation Catalyst	4.7	PPMVD @ 15% O2	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Good combustion controls.	0.0721	LB/MMBTU	1-hr average						
	Cricket Valley Energy Center		Auxiliary Boiler	Natural Gas	48.63	MMBtu/hr			0.0375	LB/MMBTU							
	Pioneer Valley Energy Center		Auxiliary Boiler	Natural Gas	21	MMBtu/hr			0.037	LB/MMBTU		0.74	LB/H				
	Hess Newark Energy Center		Auxilary Boiler	Natural Gas	66.2	MMBtu/hr			2.45	LB/H							
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			0.074	LB/MMBTU	12 month-period	7.83	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			15.7	T/YR							
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			0.037	LB/MMBTU	12 month-period	0.55	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			2.28	T/YR							
	Kalama Energy Center		Auxiliary Boiler	Natural Gas	159870	MMBTU per 12 mo rolling			30	PPMVD @ 3% O2	1-hr avg	0.81	LB/H	1-hr avg			
	LAWRENCE ENERGY CENTER LLC		Auxiliary Boiler	Natural Gas	99	MMBTU/hr			0.084	LB/MMBTU		8.32	LB/H	12 month-period			
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #1	Natural Gas	61.2	MMBTU/hr			0.037	LB/MMBTU	3-hr						
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #2	Natural Gas	61.2	MMBTU/hr			0.037	LB/MMBTU	3-hr						
	Sevier Power Company Power Plant		Auxiliary Boiler #2	Natural Gas	85	Mmbtu/hr			0.0375	LB/MMBTU	3-hr						
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #3	Natural Gas	81	MMBtu/hr			0.083	LB/MMBTU	3-hr	6.64	LB/H	3-hr			
	Woodbridge Energy Center		Auxiliary Boiler	Natural Gas	180	MMscf/yr			0.038	LB/MMBTU		3.44	LB/H				
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr			0.06	lb/MMBtu		15.6	T/YR				
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			4	LB/H		4	T/YR				

Table D-B-3
Volatile Organic Compounds (VOC) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
AL-0312	BELK CHIP-N-SAW FACILITY	5/26/2016	60 MMBTU/HR NATURAL GAS-	NATURAL GAS	60	MMBTU/H		GOOD COMBUSTION PRACTICES	0.0054	LB/MMBTU INPUT		0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	NATURAL GAS AUXILIARY	NATURAL GAS	218.6	MMBTU/H		GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN	5.5	LB/MMCF EACH	3 HOUR AVERAGE	1877.39	MMCF/12 MONTH EACH	ROLLING AVERAGE	0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Auxiliary boilers	natural gas	171	mm btu/hr		good combustion practices	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Auxiliary Boiler)	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Good combustion practices.	0.004	LB/MMBTU	TEST PROTOCOL WILL SPECIFY	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH	12/5/2016	EUAUXBOILER (Auxiliary boiler)	natural gas	83.5	MMBTU/H	One natural gas fired auxiliary boiler rated at 83.5 MMBTU/hr fuel heat input (EUAUXBOILER).	Good combustion practices.	0.008	LB/MMBTU	TEST PROTOCOL WILL SPECIFY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (North Plant):	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including	Good combustion practices.	0.004	LB/MMBTU	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (South Plant):	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including	Good combustion practices.	0.004	LB/MMBTU	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUAUXBOILER: Auxiliary Boiler	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler	Good combustion practices	0.008	LB/MMBTU	HOURLY	0.8	LB/H	HOURLY	0		
TX-0813	ODESSA PETROCHEMICAL PLANT	11/22/2016	Boilers	natural gas	223	MMBTU/H	2 boilers	Best combustion practices	0.0005	LB/MMBTU		0			0		
TX-0813	ODESSA PETROCHEMICAL PLANT	11/22/2016	small Boiler	natural gas	39.9	MMBtu/hr		best combustion practices	0.0005	MMBTU/HR		0			0		
VA-0327	PERDUE GRAIN AND OILSEED, LLC	7/12/2017	(4) 27 MMBtu/hr boilers, Natural gas	Natural Gas	27	MMBtu/hr		low nox burners	0.1	LB/HR		0.5	lb/hr		0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	Auxiliary Boiler	Natural Gas	77.8	mmBtu/hr	Annual emission based on 4600 hours/year.	Use of Natural Gas, Good Combustion Practices	0.62	LB/HR		1.42	TONS/YEAR		0.008	LB/MMBTU	
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.		0.0054	LB/MMBTU	3-HR AVG	0			0		
AL-0230	THYSSENKRUPP STEEL AND STAINLESS USA, LLC	8/17/2007	3 NATURAL GAS-FIRED BOILERS WITH ULNB & EGR (537-539)	NATURAL GAS	64.9	MMBTU each	THIS PROCESS IS COVERED UNDER 503-0095-X026.		0.0055	LB/MMBTU		0.36	LB/H		0		
AL-0231	NUCOR DECATUR LLC	6/12/2007	VACUUM DEGASSER BOILER	NATURAL GAS	95	MMBTU/H		low nox burners, use of natural gas	0.0026	LB/MMBTU		0.25	LB/H		0		
*AL-0280	LENZING FIBERS, INC.	12/6/2011	Natural Gas Fired Broiler #3	Natural Gas	100	MMBTU/Hr		Good combustion practices	5.5	LB/MMSCF	LB/MM SCF OF NATURAL GAS USED	0.0054	LB/MMBTU		0		
*AL-0282	LENZING FIBERS, INC.	1/22/2014	Natural Gas Fired Boilers (3)	Natural Gas	100	mm btu/hr		Good combustion Practices.	0.0054	LB/MMBTU		0			0		
AR-0090	NUCOR STEEL, ARKANSAS	4/3/2006	PICKLE LINE BOILERS, SN-52	NATURAL GAS	12.6	MMBTU EACH		GOOD COMBUSTION PRACTICE	0.2	LB/H		0.9	T/YR		0.0055	LB/MMBTU	
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	ONE GASEOUS-FUELED 99 MMTU/HR AUXILIARY BOILER	NATURAL GAS	99	MMBTU/H			2	GR S/100 SCF		0			0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	TWO 99.8 MMBTU/H GAS-FUELED AUXILIARY BOILERS	NATURAL GAS	99.8	MMBTU/H	PRODUCE 85,000 LB/HR STEAM EACH		2	GR S/100 SCF		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Good Combustion Practice	0.003	LB/MMBTU		0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period		0.005	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	GOOD COMBUSTION PRACTICES	0.005	LB/MMBTU	3 HOURS	0.4	LB/H	3 HOURS	0		
LA-0240	FLOPAM INC.	6/14/2010	Boilers	natural gas	25.1	MMBTU/H		Good equipment design and proper combustion techniques	0.003	LB/MMBTU	NATURAL GAS FIRED	0.008	LB/MMBTU	ALCOHOL FIRED	0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr		oxidation catalyst	11.8	PPMVD @ 3% O2	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0.005	LB/MMBTU	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0		
*MD-0041	CPV ST. CHARLES	4/23/2014	AUXILLARY BOILER	NATURAL GAS	93	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF LOW-NOX BURNER TECHNOLOGY, FLUE GAS RECIRCULATION (FGR), GOOD COMBUSTION CONTROLS, MAX HEAT INPUT OF 372,000 MMBTU/HR	EXCLUSIVE USE OF NATURAL GAS, AND GOOD COMBUSTION PRACTICES	0.002	LB/MMBTU	3-HOUR AVERAGE BLOCK	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	THE EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS, LIMITED HOURS OF OPERATION, AND GOOD COMBUSTION PRACTICES	0.0033	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*MI-0393	RAY COMPRESSOR STATION	10/14/2010	Auxiliary Boiler	natural gas	12.25	MMBTU/H	Boiler provides building heat.		0.05	LB/H	TEST METHOD	0.0041	LB/MMBTU		0		
*MI-0393	RAY COMPRESSOR STATION	10/14/2010	Reboiler (dehydrator with reboiler)	natural gas	4.8	MMBTU/H	4.8 MMBTU/H reboiler	Thermal oxidizer	0.0054	LB/MMBTU	TEST METHOD	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat input each	natural gas	100	MMBTU/H heat input each	There are two auxiliary boilers each rated at less than 100 MMBTU/H heat input. Fuel usage limited to not more than 416.3 MMscf of natural gas in each boiler per 12-month rolling timeperiod as determined at the end of each month.	Efficient combustion; natural gas fuel.	0.008	LB/MMBTU	HEAT INPUT; TEST PROTOCOL WILL SPECIFY	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler B (EUAUXBOILERB)	natural gas	95	MMBTU/H	One natural gas-fired auxiliary boiler rated at 95 MMBtu/hr fuel heat input (EUAUXBOILERB within flexible group FGAUXBOILERS).	Good combustion practices	0.008	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler A (EUAUXBOILERA)	natural gas	55	MMBTU/H	One natural gas-fired auxiliary boiler rated at 55 MMBTU/hr fuel heat input (EUAUXBOILERA within flexible group FGAUXBOILERS).	Good combustion control	0.008	LB/MMBTU	TEST PROTOCOL	0			0		
MO-0082	ARCHER DANIELS MIDLAND-MEXICO	10/5/2010	DUAL-FIRED 85.6 MMBTU/HR WATER-TUBE BOILER	NATURAL GAS	85.6	MMBTU/H	BOILER PROVIDES ADDITIONAL STEAM FOR TEH SOYBEAN SOLVENT EXTRACTION.	GOOD COMBUSTION PRACTICES	0.0055	LB/MMBTU	TEST METHOD AVG	0.001	LB/MMBTU	TEST METHOD AVG	0		
MS-0085	DART CONTAINER CORPORATION LLC	1/31/2007	NATURAL GAS FIRED BOILER	NATURAL GAS	33.5	MMBTU/h			0.81	T/YR		0.19	LB/H		0.0055	LB/MMBTU	
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Commercial/Institutional size boilers less than 100 MMBtu/hr	natural gas	91.6	MMBtu/hr	The auxiliary boiler will have a maximum rated heat capacity of 91.6 MMBtu/h and will be limited to natural gas firing only. It will be operated for the purposes of supplying steam during the start-up of the combined cycle unit. The auxiliaryboiler will be equipped with Dry Low-NOx Burners to comply with BACT and LAER.	Use of Natural Gas and good combustion practices - permit says	0.14	LB/H	AVERAGE OF THREE TESTS	0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Boiler less than 100 MMBtu/hr	Natural Gas	66.2	MMBtu/hr		use of natural gas a clean fuel	0.27	LB/H	AVERAGE OF THREE TESTS	0			0		

Table D-B-3
Volatile Organic Compounds (VOC) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NV-0044	HARRAH'S OPERATING COMPANY, INC.	1/4/2007	COMMERCIAL/INSTITUTIONAL-SIZE BOILERS	NATURAL GAS	35.4	MMBTU/H	THE BACT DETERMINATIONS REPORTED HERIN ARE SPECIFICALLY FOR THE TWO HURST BOILERS INSTALLED AT CAESAR'S PALACE. EACH OF THEM HAS A RATED HEAT INPUT OF 35.4 MMBTU/HR. THE PERMITTING ACTION ALSO APPROVED THE INSTALLATION OF A NUMBER OF SMALL BOILERS, ALL OF WHICH HAVE A RATED HEAT INPUT BELOW THE THRESHOLD OF INSTITUTIONAL SIZE. NATURAL GAS IS THE ONLY FUEL USED FOR ALL BOILERS FOR THIS FACILITY. THE TOTAL INCREASE OF RATED HEAT INPUT FOR ALL THE NEW BOILERS IS 100.7 MMBTU/HR. THE TWO NEW HURST BOILERS HAVE THE COMBINED RATED HEAT INPUT OF 70.8 MMBTU/HR, ACCOUNTING FOR 70% OF THE TOTAL INCREASE.	GOOD COMBUSTION DESIGN	0.005	LB/MMBTU		0.18	LB/H		0.005	LB/MMBTU	
NV-0047	NELLIS AIR FORCE BASE	2/26/2008	BOILERS/HEATERS - NATURAL GAS-FIRED	NATURAL GAS			THE FACILITY HAS 125 REGULATED UNITS AND 142 EXEMPT UNITS. UNIT RB013 (RITE BOILER, 6.5 MMBTU/HR) IS SELECTED TO SHOW THE BACT DETERMINATIONS.	FLUE GAS RECIRCULATION	0.0062	LB/MMBTU		0.04	LB/H		0.0062	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT HA08	NATURAL GAS	8.37	MMBTU/H	THE EMISSION UNIT IS A CLEAVER BROOKS BOILER AT HARRAH'S LAS VEGAS. UNIT HA08 IS IDENTICAL TO HA09 AND HA10. THE SAME SET OF EMISSION LIMITS APPLIES TO EACH OF THE THREE BOILERS. THE THREE BOILERS ARE SUBJECT TO THE LIMIT OF TOTAL ANNUAL OPERATING TIME FOR 20,000 HOURS PER YEAR. THERE ARE NO BOILERS AT HARRAH'S LAS VEGAS, WHICH HAS A THROUGHPUT CAPACITY IN EXCESS OF 10 MMBTU/HR. NO BACT DETERMINATIONS FOR ANY EMISSION UNITS AT BILL'S GAMBLIN' HALL & SALON ARE REPORTED HEREIN BECAUSE ALL OF THEM HAVE A VERY SMALL POTENTIAL TO EMIT FOR ANY POLLUTANT.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0054	LB/MMBTU		0.045	LB/H		0.0054	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT FL01	NATURAL GAS	14.34	MMBTU/H	UNIT FL01 IS A JOHNSTON BOILER AT FLAMINGO LAS VEGAS. THIS UNIT MAY OPERATE 8,760 HOURS PER YEAR.	FLUE GAS RECIRCULATION	0.0054	LB/MMBTU		0.078	LB/H		0.0054	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA01	NATURAL GAS	16.8	MMBTU/H	UNIT BA01 IS A KEWANEE BOILER AT BALLY'S LAS VEGAS. UNIT BA01 IS IDENTICAL TO UNIT BA02. THE TWO BOILERS ARE SUBJECT TO THE ANNUAL LIMIT OF COMBINED TOTAL OPERATING TIME FOR 10,900 HOURS PER YEAR.	FLUE GAS RECIRCULATION	0.0054	LB/MMBTU		0.09	LB/H		0.0054	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA03	NATURAL GAS	31.38	MMBTU/H	UNIT BA03 IS A KIWANEE BOILER AT BALLY'S LAS VEGAS. THE ANNUAL OPERATING TIME IS LIMITED TO 2,920 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0054	LB/MMBTU		0.17	LB/H		0.0054	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP01	NATURAL GAS	35.4	MMBTU/H	UNIT CP01 IS A HURST BOILER AT CAESAR'S PALACE. UNIT CP01 IS IDENTICAL TO UNIT CP02. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	FLUE GAS RECIRCULATION AND OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0054	LB/MMBTU		0.19	LB/H		0.0054	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP03	NATURAL GAS	33.48	MMBTU/H	UNIT CP03 IS A BURNHAM BOILER AT CAESAR'S PALACE. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0054	LB/MMBTU		0.18	LB/H		0.0054	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP26	NATURAL GAS	24	MMBTU/H	UNIT CP26 IS A UNILUX BOILER AT CAESAR'S PALACE. THE UNIT IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0054	LB/MMBTU		0.13	LB/H		0.0054	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT IP04	NATURAL GAS	16.7	MMBTU/H	UNIT IP04 IS A KEWANEE BOILER AT IMPERIAL PALACE. UNIT IP04 IS IDENTICAL TO UNIT IP05. EITHER BOILER IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0053	LB/MMBTU		0.09	LB/H		0.0053	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC001, CC002, AND CC003 AT CITY CENTER	NATURAL GAS	41.64	MMBTU/H	THE THREE UNITS ARE IDENTICAL NEBRASKA BOILERS, EACH OF WHICH IS RATED AT 41.64 MMBTU/HR. EACH UNIT IS ALLOWED TO OPERATE 24 HOURS/DAY AND UP TO 5,800 HOURS/ YEAR. THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	LIMITING THE FUEL TO NATURAL GAS ONLY AND GOOD COMBUSTION PRACTICES	0.0024	LB/MMBTU		2.63	LB/D		0.0024	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC026, CC027 AND CC028 AT CITY CENTER	NATURAL GAS	44	MMBTU/H	THE THREE UNITS ARE IDENTICAL CATERPILLAR BOILERS, EACH RATED AT 44 MMBTU/HR. EACH UNIT IS SUBJECT TO THE ANNUAL LIMIT OF OPERATING TIME TO 5,800 HOURS. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #13 DATED NOVEMBER 30, 2009.	LIMITING THE FUEL TO NATURAL GAS ONLY AND GOOD COMBUSTION PRACTICES	0.0055	LB/MMBTU		0.24	LB/H		0.0055	LB/MMBTU	
OH-0309	TOLEDO SUPPLIER PARK-PAINT SHOP	5/3/2007	BOILER (2), NATURAL GAS	NATURAL GAS	20.4	MMBTU/H	TWO BOILERS WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION. WITH #2 OIL BACKUP TWO SET OF LIMITS, THIS ONE FOR NATURAL GAS		0.11	LB/H		0.5	T/YR		0.0054	LB/MMBTU	
OH-0323	TITAN TIRE CORPORATION OF BRYAN	6/5/2008	BOILER	NATURAL GAS	50.4	MMBTU/H			0.27	LB/H		1.18	T/YR		0		
*OH-0350	REPUBLIC STEEL	7/18/2012	Steam Boiler	Natural Gas	65	MMBtu/H	Natural Gas-fired stam boiler to vacuum tank degasser	Proper burner design and good combustion practices	0.35	LB/H		1.52	T/YR		0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Auxillary Boiler	Natural Gas	99	MMBtu/H	99 MMBTU/H auxillary boiler with low-NOx burners and flue gas re-circulation, burning only natural gas. Boiler restricted to 2000 hours of operation per rolling 12-months.	Good combustion practices and using combustion optimization technologies	0.59	LB/H		0.59	T/YR	PER ROLLING 12-MONTHS	0.006	LB/MMBTU	
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	AUXILIARY BOILER	NATURAL GAS	33.5	MMBTU/H		GOOD COMBUSTION	0.54	LB/H		0			0		
OK-0135	PRYOR PLANT CHEMICAL	2/23/2009	BOILERS #1 AND #2	NATURAL GAS	80	MMBTU/H	THE BOILERS WILL PROVIDE THE STEAM NEEDED TO OPERATE THE VARIOUS PIECES OF EQUIPMENT AT THE FACILITY.		0.5	LB/H		0			0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Auxiliary boiler	natural gas	39.8	MMBtu/hr		Utilize Low-NOx burners and FGR.	0.005	LB/MMBTU	3-HR BLOCK AVERAGE	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			0.0015	LB/MMBTU		0.14	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr		Use of natural gas	0.14	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
SC-0112	NUCOR STEEL - BERKELEY	5/5/2008	VACUUM DEGASSER BOILER	NATURAL GAS	50.21	MMBTU/H		NATURAL GAS COMBUSTION WITH GOOD COMBUSTION PRACTICES PER MANUFACTURER'S GUIDANCE	0.0026	LB/MMBTU		0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU003	NATURAL GAS	46	MMBTU/H		Good combustion practices and limited use of fuel oil	0.003	LB/MMBTU	3-HOUR AVERAGE	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU004	NATURAL GAS	46	MMBTU/H		Good combustion practices and limited use of fuel oil	0.003	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU005	NATURAL GAS	46	MMBTU/H		Good combustion practices and limited use of fuel oil	0.003	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU006	NATURAL GAS	46	MMBTU/H		Good combustion practices and limited use of fuel oil	0.003	LB/MMBTU	3-HOUR	0			0		
*SC-0160	US8 FACILITY	12/13/2012	BOILERS (BL01) & (BL02)	NATURAL GAS	33.6	MMBTU/H	THE CONSTRUCTION PERMIT AUTHORIZES THE MODIFICATION TO THE TWO EXISTING BOILERS BY ADDING LARGER BURNERS. THIS PROCESS AND POLLUTANT INFORMATION IS FOR ONE BOILER		0.18	LB/H		0.0054	LB/MMBTU		0		
TX-0501	TEXSTAR GAS PROCESS FACILITY	7/11/2006	POWER STEAM BOILER	NATURAL GAS	93	MMBTU/H			0.46	LB/H		0.38	T/YR		0		
*TX-0751	EAGLE MOUNTAIN STEAM ELECTRIC STATION	6/18/2015	Commercial/Institutional Size Boilers (<100 MMBtu) â€“ natural gas	natural gas	73.3	MMBtu/hr			4	PPMVD @ 3% O2	1-HR AVG	0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	40	MMBtu/hr	Hot oil heater	Good combustion practice to ensure complete combustion.	0.94	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	95.7	MMBtu/hr	Three boilers will be used intermittently to provide steam for heating tanks or railcars as necessary to reduce viscosity of heavy liquids.	Good combustion practice to ensure complete combustion.	5.42	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	13.2	MMBtu/hr	Boiler will be operated continuously to maintain system temperatures in the intermittent boilers and heavy liquid storage tanks.	Good combustion practice to ensure complete combustion.	0.3	T/YR		0			0		

Table D-B-3
Volatile Organic Compounds (VOC) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*WY-0075	CHEYENNE PRAIRIE GENERATING STATION	7/16/2014	Auxiliary Boiler	natual gas	25.06	MMBtu/h		good combustion practices	0.0017	LB/MMBTU	3 HOUR AVERAGE	0.1	LB/H	3 HOUR AVERAGE	0		
	Astoria Energy LLC		Auxiliary Boiler	Natural Gas	99	MMBtu/hr		Clean Fuel	0.002	LB/MMBTU	1-hr average						
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.4	LB/H	1-hr average	0.005	lb/MMBtu	1-hr average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	11.8	PPMVD @ 15% O2	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Good combustion controls.	0.0038	LB/MMBTU	1-hr average						
	Cricket Valley Energy Center		Auxiliary Boiler	Natural Gas	48.63	MMBtu/hr			0.0015	LB/MMBTU							
	Hess Newark Energy Center		Auxilary Boiler	Natural Gas	66.2	MMBtu/hr		Use of natural gas	0.27	LB/H							
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			0.005	LB/MMBTU	12 month-period	0.57	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			1.1	T/YR							
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			0.006	LB/MMBTU	12 month-period	0.83	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr		Use of natural gas	0.34	T/YR							
	LAWRENCE ENERGY CENTER LLC		Auxiliary Boiler	Natural Gas	99	MMBTU/hr			0.0055	LB/MMBTU		0.545	LB/H	12 month-period			
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #2	Natural Gas	61.2	MMBTU/hr			0.006	LB/MMBTU	3-hr						
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #6	Natural Gas	84	MMBtu/hr			0.005	LB/MMBTU	3-hr	0.4	LB/H	3-hr			
	Woodbridge Energy Center		Auxiliary Boiler	Natural Gas	91.6	MMBtu/hr		Good combustion practices	0.0015	LB/MMBTU		0.14	LB/H				
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr		Use of natural gas	0.004	lb/MMBtu		1.1	T/YR				
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			0.6	LB/H		0.6	T/YR				

Table D-B-4
Particulate Matter (PM) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Auxiliary Boiler, 99.8 MMBtu/hr	Natural gas	99.8	MMBtu/hr	Fires only natural gas with a sulfur content of 2 gr S/100 SCF. Limited to 2000 hr/yr.	Use of clean fuels	2	gr S/100 scf natural gas		10	% OPACITY		0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	99.8 MMBtu/hr auxiliary boiler	Natural gas	99.8	MMBtu/hr	Fueled only with natural gas with sulfur content of 2 gr S/ 100 scf	Clean fuels	2	gr S/100 scf natural gas		20%	opacity		0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	NATURAL GAS AUXILIARY BOILERS (EU-012A, EU-012B, EU-012C)	NATURAL GAS	218.6	MMBTU/H		PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.	1.9	LB/MMCF EACH	3 HOUR AVERAGE	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Auxiliary Boiler)	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Good combustion practices.	0.005	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	EUAUXBOILER (Auxiliary boiler)	natural gas	83.5	MMBTU/H	One natural gas fired auxiliary boiler rated at 83.5 MMBTU/hr fuel heat input (EUAUXBOILER).	Good combustion practices.	0.0018	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (North Plant): Auxiliary Boilder	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices.	0.005	LB/MMBTU	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (South Plant): Auxiliary Boiler	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices.	0.005	LB/MMBTU	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUAUXBOILER: Auxiliary Boiler	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices, low sulfur fuel	0.007	LB/MMBTU	HOURLY	0.7	LB/H	HOURLY	0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Auxiliary Boiler firing natural gas	natural gas	687	MMCFT/YR	Maximum heat input rate for natural gas fired auxiliary boiler is 80 MMBtu/hr (HHV) permitted to operate for 8760 hrs/yr.	Use of natural gas a clean burning	0.26	LB/H	AV OF THREE ONE HOUR STACK TESTS	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	AUXILIARY BOILER	Natural GAS	4000	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL	0.181	LB/H	AV OF THREE ONE H STACK TESTS INITIALLY	0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Auxilary boiler	natural gas	60	MMBTU/H	Limited to 4,500 H/YR	good combustion practiced and pipeline quality natural gas	0.005	LB/MMBTU	1 H	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Auxilary boiler	Natural Gas	92.4	MMBtu/hr	Operation of the auxiliary boiler shall not exceed 4000 hrs in any continuous 12-month period.	ULSD and good combustion practices	0.007	LB/MMBTU		1.29	TPY	12-MONTH ROLLING BASIS	0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	Auxiliary Boiler	Natural Gas	77.8	mmBtu/hr	Annual emission based on 4600 hours/year.	Use of Natural Gas, Good Combustion Practices	0.6	LB/HR		1.38	TONS/YEAR		0.008	LB/MMBTU	
*WV-0031	MOCKINGBIRD HILL COMPRESSOR STATION	6/14/2018	WH-1 - Boiler	Natural Gas	8.72	mmBtu/hr	Used to generated heat for the new building associated with the project during the heating season.	Limited to natural gas.	0			0			0.28	TON/YEAR	12-MONTH ROLLING
AL-0231	NUCOR DECATUR LLC	6/12/2007	VACUUM DEGASSER BOILER	NATURAL GAS	95	MMBTU/H			0.0076	LB/MMBTU		0.72	LB/H		0		
*AL-0280	LENZING FIBERS, INC.	12/6/2011	Natural Gas Fired Broiler #3	Natural Gas	100	MMBTU/Hr		Good Combustion Practices	7.6	LB/MMSCF	LB/MM SCF OF NATURAL GAS USED	0.0075	LB/MMBTU		0		
*AL-0282	LENZING FIBERS, INC.	1/22/2014	Natural Gas Fired Boilers (3)	Natural Gas	100	mm btu/hr		Good combustion Practices.	0.0075	LB/MMBTU		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	GOOD COMBUSTION PRACTICES AND FUEL SPECIFICATIONS	0.0075	LB/MMBTU	3 HOURS	0.6	LB/H	3 HOURS	0		
MD-0040	CPV ST CHARLES	11/12/2008	BOILER	NATURAL GAS	93	MMBTU/H	AUXILLARY BOILER		0.005	LB/MMBTU	3-HR AVERAGE	0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	AUXILLARY BOILER	NATURAL GAS	93	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF LOW-NOX BURNER TECHNOLOGY, FLUE GAS RECIRCULATION (FGR), GOOD COMBUSTION CONTROLS, MAX HEAT INPUT OF 372,000 MMBTU/HR	USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.005	LB/MMBTU	3-HOUR AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.0075	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat input each	natural gas	100	MMBTU/H heat input each	There are two auxiliary boilers each rated at less than 100 MMBTU/H heat input. Fuel usage limited to not more than 416.3 MMscf of natural gas in each boiler per 12-month rolling timeperiod as determined at the end of each month.	Efficient combustion; natural gas fuel.	0.0018	LB/MMBTU	HEAT INPUT; TEST PROTOCOL WILL SPECIFY	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler B (EUAUXBOILERB)	natural gas	95	MMBTU/H	One natural gas-fired auxiliary boiler rated at 95 MMBtu/hr fuel heat input (EUAUXBOILERB within flexible group FGAUXBOILERS).	Good combustion practices	0.0018	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler A (EUAUXBOILERA)	natural gas	55	MMBTU/H	One natural gas-fired auxiliary boiler rated at 55 MMBTU/hr fuel heat input (EUAUXBOILERA within flexible group FGAUXBOILERS).	Good combustion practices	0.0018	LB/MMBTU	TEST PROTOCOL	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Commercial/Instituti onal size boilers less than 100 MMBtu/hr	natural gas	91.6	MMBtu/hr	The auxiliary boiler will have a maximum rated heat capacity of 91.6 MMBtu/h and will be limited to natural gas firing only. It will be operated for the purposes of supplying steam during the start-up of the combined cycle unit. The auxiliaryboiler will be equipped with Dry Low-NOx Burners to comply with BACT and LAER.	use of Natural gas	0.17	LB/H	AVERAGE OF THREE TESTS	0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Boiler less than 100 MMBtu/hr	Natural Gas	51.9	mmcubic ft/year		use of natural gas a clean fuel	0.22	LB/H	AVERAGE OF THREE TESTS	0			0		
OH-0309	TOLEDO SUPPLIER PARK-PAINT SHOP	5/3/2007	BOILER (2), NATURAL GAS	NATURAL GAS	20.4	MMBTU/H	TWO BOILERS WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION. WITH #2 OIL BACKUP TWO SET OF LIMITS, THIS ONE FOR NATURAL GAS		0.04	LB/H		0.27	LB/YR		0.0019	LB/MMBTU	
OH-0323	TITAN TIRE CORPORATION OF BRYAN	6/5/2008	BOILER	NATURAL GAS	50.4	MMBTU/H			0.02	LB/MMBTU		0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU003	NATURAL GAS	46	MMBTU/H			0.005	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU003	NATURAL GAS	46	MMBTU/H			0.002	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU004	NATURAL GAS	46	MMBTU/H			0.005	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU004	NATURAL GAS	46	MMBTU/H			0.002	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU005	NATURAL GAS	46	MMBTU/H			0.005	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU005	NATURAL GAS	46	MMBTU/H			0.002	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU006	NATURAL GAS	46	MMBTU/H			0.005	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU006	NATURAL GAS	46	MMBTU/H			0.002	LB/MMBTU	3-HOUR	0			0		
	Astoria Energy LLC		Auxiliary Boiler	Natural Gas	99	MMBtu/hr		Clean Fuel	0.005	LB/MMBTU	1-hr average	0.495	LB/H	1-hour average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.4	LB/H	1-hr average	0.005	lb/MMBtu	1-hr average			

Table D-B-4
Particulate Matter (PM) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Low sulfur fuel.	0.0063	LB/MMBTU	1-hr average						
	Hess Newark Energy Center		Auxiliary Boiler	Natural Gas	66.2	MMBtu/hr			12.62	LB/H	1 time stack test						
	LAWRENCE ENERGY CENTER LLC		Auxiliary Boiler	Natural Gas	99	MMBTU/hr			0.0076	LB/MMBTU		0.76	LB/H	.			
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #2	Natural Gas	80	MMBtu/hr			0.0075	LB/MMBTU	3-hr	0.6	LB/H	3-hr			
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr			0.005	lb/MMBtu		1.3	T/YR				
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			0.5	LB/H		0.5	T/YR				

Table D-B-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	99.8 MMBtu/hr auxiliary boiler	Natural gas	99.8	MMBtu/hr	Fueled only with natural gas.	Clean fuels	2	gr S/100 scf natural gas		20	% OPACITY		0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	NATURAL GAS AUXILIARY BOILERS (EU-012A, EU-012B, EU-012C).	NATURAL GAS	218.6	MMBTU/H		PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN OPERATION.	7.6	LB/MMCF EACH	3 HOUR AVERAGE	0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Auxiliary Boilers and Superheaters	Natural Gas	0		Supplement fuel: fuel gas Boilers: 225 MM BTU/hr each	good engineering design and proper operation	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Auxiliary boilers	natural gas	171	mm btu/hr		good combustion practices	0			0			0		
MI-0420	DTE GAS COMPANY – MILFORD COMPRESSOR STATION	6/3/2016	FGAUXBOILERS	Natural gas	6	MMBTU/H	Two natural gas-fired auxiliary boilers, each rated at 6 MMBTU/H fuel heat input. The boilers are identified as EUAUXBOIL2 and EUAUXBOIL3 within the flexible group FGAUXBOILERS. The boilers are subject to 40 CFR Part 63 Subpart DDDDD, which requires tune ups.	Good combustion practices and low sulfur fuel (pipeline quality natural gas).	0.0075	LB/MMBTU	TEST PROTOCOL	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Auxiliary Boiler)	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Good combustion practices.	1.36	LB/H	HOURLY, TEST PROTOCOL	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/5/2016	EUAUXBOILER (Auxiliary boiler)	natural gas	83.5	MMBTU/H	One natural gas fired auxiliary boiler rated at 83.5 MMBTU/hr fuel heat input (EUAUXBOILER).	Good combustion practices.	0.007	LB/MMBTU	TEST PROTOCOL WIL SPECIFY AVG TIME	0			0		
MI-0426	DTE GAS COMPANY - MILFORD COMPRESSOR STATION	3/24/2017	FGAUXBOILERS (6 auxiliary boilers EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B, EUAUXBOIL3B, EUAUXBOIL2C, EUAUXBOIL3C)	Natural gas	3	MMBTU/H	Four natural gas-fired auxiliary boilers, each rated at 3 MMBTU/H fuel heat input (EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B and EUAUXBOIL3B in FGAUXBOILERS) and two natural gas-fired auxiliary boilers, each rated at 1 MMBTU/H fuel heat input (EUAUXBOIL2C and EUAUXBOIL3C in FGAUXBOILERS). The boilers are subject to 40 CFR Part 63 Subpart DDDDD which requires tune ups.	Good combustion practices and low sulfur fuel (pipeline quality natural gas).	0.52	LB/MMSCF	EACH BOILER	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (North Plant): Auxiliary Boilder	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices	0.46	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (South Plant): Auxiliary Boiler	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices.	0.46	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUAUXBOILER: Auxiliary Boiler	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices, low sulfur fuel	0.007	LB/MMBTU	HOURLY	0.7	LB/H	HOURLY	0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Auxiliary Boiler firing natural gas	natural gas	80	MMBtu/hr	Maximum heat input rate for natural gas fired auxiliary boiler is 80 MMBtu/hr (HHV) permitted to operate for 8760 hrs/yr.	use of natural gas a clean burning fuel	0.4	LB/H	AV OF THREE ONE HOUR STACK TESTS	0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	AUXILIARY BOILER	Natural GAS	97.5	MMBtu/hr		USE OF NATURAL GAS A CLEAN BURNING FUEL	0.488	LB/H	AV OF THREE ONE H STACK TESTS INITIALLY	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Auxilary boiler	Natural Gas	92.4	MMBtu/hr	Operation of the auxiliary boiler shall not exceed 4000 hrs in any continuous 12-month period.	ULSD and good combustion practices	0.007	LB/MMBTU		1.29	TPY	12-MONTH ROLLING BASIS	0		
*WV-0031	MOCKINGBIRD HILL COMPRESSOR STATION	6/14/2018	WH-1 - Boiler	Natural Gas	8.72	mmBtu/hr	Used to generated heat for the new building associated with the project during the heating season.	Limited to natural gas	0			0			0.28	TON/YEAR	
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.		0.0074	LB/MMBTU	3-HR AVG	0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.	Limited Use (200 hr/yr)	0.0074	LB/MMBTU	3-HR AVG	0			0		
AL-0230	THYSSENKRUPP STEEL AND STAINLESS USA, LLC	8/17/2007	3 NATURAL GAS-FIRED BOILERS WITH ULNB & EGR (537-539)	NATURAL GAS	64.9	MMBTU each	THIS PROCESS IS COVERED UNDER 503-0095-X026.		0.0076	LB/MMBTU		0.5	LB/H		0		
AR-0090	NUCOR STEEL, ARKANSAS	4/3/2006	PICKLE LINE BOILERS, SN-52	NATURAL GAS	12.6	MMBTU EACH		GOOD COMBUSTION PRACTICE	0.3	LB/H		1.3	T/YR		0.0076	LB/MMBTU	
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	AUXILIARY BOILER	NATURAL GAS	35	MMBTU/H		OPERATIONAL RESTRICTION OF 500 HR/YR, USE PUC QUALITY NATURAL GAS	0.2	GR S/100 SCF		0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	AUXILIARY BOILER	NATURAL GAS	37.4	MMBTU/H		USE PUC QUALITY NATURAL GAS, OPERATIONAL LIMIT OF 46,675 MMBTU/YR	0.0034	GR S/100 SCF		0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	AUXILIARY BOILER	NATURAL GAS	37.4	MMBTU/H		USE PUC QUALITY NATURAL GAS, OPERATIONAL LIMIT OF 46,675 MMBTU/YR	0.0034	GR S/100 SCF		0			0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	TWO 99.8 MMBTU/H GAS-FUELED AUXILIARY BOILERS	NATURAL GAS	99.8	MMBTU/H	PRODUCE 85,000 LB/HR STEAM EACH		2	GR S/100 SCF		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Good Combustion Practice	2	GR S/100 SCF		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Good Combustion Practice	2	GR S/100 SCF		0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period		0.008	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	GOOD COMBUSTION PRACTICES AND FUEL SPECIFICATIONS	0.0075	LB/MMBTU	3 HOURS	0.6	LB/H	3 HOURS	0		
LA-0240	FLOPAM INC.	6/14/2010	Boilers	natural gas	25.1	MMBTU/H		Good equipment design and proper combustion practices, fueled by natural gas/alcohol	0.1	LB/H	HOURLY MAXIMUM	0.005	LB/MMBTU		0		
LA-0240	FLOPAM INC.	6/14/2010	Boilers	natural gas	25.1	MMBTU/H		Good equipment design and proper combustion practices, fueled by natural gas/alcohol	0.13	LB/H	HOURLY MAXIMUM	0.005	LB/MMBTU		0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr			0.005	LB/MMBTU	1 HR AVG, DOES NOT APPLY DURING SS	0.4	LB/H	1 HR AVG, DOES NOT APPLY DURING SS	0		
MD-0040	CPV ST CHARLES	11/12/2008	BOILER	NATURAL GAS	93	MMBTU/H	AUXILIARY BOILER		0.005	LB/MMBTU	3-HR AVERAGE	0			0		

Table D-B-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MD-0041	CPV ST. CHARLES	4/23/2014	AUXILLARY BOILER	NATURAL GAS	93	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF LOW-NOX BURNER TECHNOLOGY, FLUE GAS RECIRCULATION (FGR), GOOD COMBUSTION CONTROLS, MAX HEAT INPUT OF 372,000 MMBTU/HR	USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.005	LB/MMBTU	3-HOUR AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.0075	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat input each	natural gas	100	MMBTU/H heat input each	There are two auxiliary boilers each rated at less than 100 MMBTU/H heat input. Fuel usage limited to not more than 416.3 MMscf of natural gas in each boiler per 12-month rolling timeperiod as determined at the end of each month.	Efficient combustion; natural gas fuel.	0.007	LB/MMBTU	HEAT INPUT; TEST PROTOCOL SPECIFY AVG	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler B (EUAUXBOILERB)	natural gas	95	MMBTU/H	One natural gas-fired auxiliary boiler rated at 95 MMBtu/hr fuel heat input (EUAUXBOILERB within flexible group FGAUXBOILERS).	Good combustion practices	0.007	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler A (EUAUXBOILERA)	natural gas	55	MMBTU/H	One natural gas-fired auxiliary boiler rated at 55 MMBTU/hr fuel heat input (EUAUXBOILERA within flexible group FGAUXBOILERS).	Good combustion practices	0.007	LB/MMBTU	TEST PROTOCOL	0			0		
MN-0070	MINNESOTA STEEL INDUSTRIES, LLC	9/7/2007	SMALL BOILERS & HEATERS(<100 MMBTU/H)	NATURAL GAS	99	MMBTU/H			0.0025	GR S/100 SCF	3 HOUR AVERAGE	0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	261 MMBtu/h natrual gas-fired boiler, equipped with low-NOx burners, SCR, and CO catalytic oxidation	NATURAL GAS	261	MMBTU/H			1.31	LB/H	3-HR AVERAGE	0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	261 MMBtu/h natrual gas-fired boiler, equipped with low-NOx burners, SCR, and CO catalytic oxidation	NATURAL GAS	261	MMBTU/H			1.31	LB/H	3-HR AVERAGE	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Commercial/Institutional size boilers less than 100 MMBtu/hr	natural gas	91.6	MMBtu/hr	The auxiliary boiler will have a maximum rated heat capacity of 91.6 MMBtu/h and will be limited to natural gas firing only. It will be operated for the purposes of supplying steam during the start-up of the combined cycle unit. The auxiliaryboiler will be equipped with Dry Low-NOx Burners to comply with BACT and LAER.	Natural Gas	0.46	LB/H	AVERAGE OF THREE TEST'S	0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Boiler less than 100 MMBtu/hr	Natural Gas	66.2	MMBtu/hr		use of natural gas a clean fuel	0.33	LB/H	AVERAGE OF THREE TEST'S	0			0		
NV-0044	HARRAH'S OPERATING COMPANY, INC.	1/4/2007	COMMERCIAL/INSTITUTIONAL-SIZE BOILERS	NATURAL GAS	35.4	MMBTU/H	THE BACT DETERMINATIONS REPORTED HERIN ARE SPECIFICALLY FOR THE TWO HURST BOILERS INSTALLED AT CAESAR'S PALACE. EACH OF THEM HAS A RATED HEAT INPUT OF 35.4 MMBTU/HR. THE PERMITTING ACTION ALSO APPROVED THE INSTALLATION OF A NUMBER OF SMALL BOILERS, ALL OF WHICH HAVE A RATED HEAT INPUT BELOW THE THRESHOLD OF INSTITUTIONAL SIZE. NATURAL GAS IS THE ONLY FUEL USED FOR ALL BOILERS FOR THIS FACILITY. THE TOTAL INCREASE OF RATED HEAT INPUT FOR ALL THE NEW BOILERS IS 100.7 MMBTU/HR. THE TWO NEW HURST BOILERS HAVE THE COMBINED RATED HEAT INPUT OF 70.8 MMBTU/HR, ACCOUNTING FOR 70% OF THE TOTAL INCREASE.	USE OF NATURAL GAS AS THE ONLY FUEL	0.0075	LB/MMBTU		0.26	LB/H		0.0075	LB/MMBTU	
NV-0046	GOODSPRINGS COMPRESSOR STATION	5/16/2006	COMMERCIAL/INSTITUTIONAL BOILER	NATURAL GAS	3.85	MMBTU/H	THE UNIT'S MODEL IDENTIFICATION IS PEERLESS 724 FDA WU.	GOOD COMBUSTION PRACTICE	0.0078	LB/MMBTU		0.13	T/YR		0.0078	LB/MMBTU	
NV-0047	NELLIS AIR FORCE BASE	2/26/2008	BOILERS/HEATERS - NATURAL GAS-FIRED	NATURAL GAS			THE FACILITY HAS 125 REGULATED UNITS AND 142 EXEMPT UNITS. UNIT RB013 (RITE BOILER, 6.5 MMBTU/HR) IS SELECTED TO SHOW THE BACT DETERMINATIONS.	FLUE GAS RECIRCULATION	0.0077	LB/MMBTU		0.05	LB/H		0.0077	LB/MMBTU	
NV-0048	GOODSPRINGS COMPRESSOR STATION	5/16/2006	COMMERCIAL/INSTITUTIONAL-SIZE BOILER (<100 MMBTU/H)	NATURAL GAS	3.85	MMBTU/H	THE PROCESS CONSISTS OF ONE PEERLESS BOILER. THE BOILER IS ALLOWED TO OPERATE 8,760 HOURS PER YEAR.	NATURAL GAS IS THE ONLY FUEL USED BY THE UNIT.	0.0078	LB/MMBTU		0.03	LB/H		0		
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT HA08	NATURAL GAS	8.37	MMBTU/H	THE EMISSION UNIT IS A CLEAVER BROOKS BOILER AT HARRAH'S LAS VEGAS. UNIT HA08 IS IDENTICAL TO HA09 AND HA10. THE SAME SET OF EMISSION LIMITS APPLIES TO EACH OF THE THREE BOILERS. THE THREE BOILERS ARE SUBJECT TO THE LIMIT OF TOTAL ANNUAL OPERATING TIME FOR 20,000 HOURS PER YEAR. THERE ARE NO BOILERS AT HARRAH'S LAS VEGAS, WHICH HAS A THROUGHPUT CAPACITY IN EXCESS OF 10 MMBTU/HR. NO BACT DETERMINATIONS FOR ANY EMISSION UNITS AT BILL'S GAMBLIN' HALL & SALON ARE REPORTED HEREIN BECAUSE ALL OF THEM HAVE A VERY SMALL POTENTIAL TO EMIT FOR ANY POLLUTANT.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0075	LB/MMBTU		0.063	LB/H		0.0075	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT FL01	NATURAL GAS	14.34	MMBTU/H	UNIT FL01 IS A JOHNSTON BOILER AT FLAMINGO LAS VEGAS. THIS UNIT MAY OPERATE 8,760 HOURS PER YEAR.	FLUE GAS RECIRCULATION AND OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0075	LB/MMBTU		0.11	LB/H		0.0075	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA01	NATURAL GAS	16.8	MMBTU/H	UNIT BA01 IS A KEWANEE BOILER AT BALLY'S LAS VEGAS. UNIT BA01 IS IDENTICAL TO UNIT BA02. THE TWO BOILERS ARE SUBJECT TO THE ANNUAL LIMIT OF COMBINED TOTAL OPERATING TIME FOR 10,900 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0077	LB/MMBTU		0.13	LB/H		0.0077	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA03	NATURAL GAS	31.38	MMBTU/H	UNIT BA03 IS A KIWANEE BOLER AT BALLY'S LAS VEGAS. THE ANNUAL OPERATING TIME IS LIMITED TO 2,920 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0076	LB/MMBTU		0.24	LB/H		0.0076	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP01	NATURAL GAS	35.4	MMBTU/H	UNIT CP01 IS A HURST BOILER AT CAESAR'S PALACE. UNIT CP01 IS IDENTICAL TO UNIT CP02. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0076	LB/MMBTU		0.27	LB/H		0.0076	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP03	NATURAL GAS	33.48	MMBTU/H	UNIT CP03 IS A BURNHAM BOILER AT CAESAR'S PALACE. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0075	LB/MMBTU		0.25	LB/H		0.0075	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP26	NATURAL GAS	24	MMBTU/H	UNIT CP26 IS A UNILUX BOILER AT CAESAR'S PALACE. THE UNIT IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0075	LB/MMBTU		0.18	LB/H		0.0075	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT PA15	NATURAL GAS	21	MMBTU/H	UNIT PA15 IS A BRYAN BOILER AT PARIS CASINO RESORT. UNIT PA15 IS IDENTICAL TO UNIT PA16. UNIT PA14 IS A BRYAN BOILER RATED AT 17.0 MMBTU/HR. EACH OF THE THREE BOILERS IS SUBJECT TO THE LIMIT OF ANNUAL OPERATING TIME FOR 4,380 HOURS PER YEAR. THEY SHARE THE SAME BACT DETERMINATIONS ON THE PER MMBTU BASIS.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0076	LB/MMBTU		0.16	LB/H		0.0076	LB/MMBTU	

Table D-B-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT IP04	NATURAL GAS	16.7	MMBTU/H	UNIT IP04 IS A KEWANEE BOILER AT IMPERIAL PALACE. UNIT IP04 IS IDENTICAL TO UNIT IP05. EITHER BOILER IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	OPERATING IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION	0.0078	LB/MMBTU		0.13	LB/H		0.0078	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC001, CC002, AND CC003 AT CITY CENTER	NATURAL GAS	41.64	MMBTU/H	THE THREE UNITS ARE IDENTICAL NEBRASKA BOILERS, EACH OF WHICH IS RATED AT 41.64 MMBTU/HR. EACH UNIT IS ALLOWED TO OPERATE 24 HOURS/DAY AND UP TO 5,800 HOURS/ YEAR. THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	LIMITING THE FUEL TO NATURAL GAS ONLY AND GOOD COMBUSTION PRACTICES	0.0077	LB/MMBTU		7.64	LB/D		0.0077	LB/MMBTU	
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	AUXILIARY BOILER	NATURAL GAS	29.4	MMBTU/H	4800 H/YR	LOW SULFUR FUEL	0.0033	LB/MMBTU		0			0		
OH-0309	TOLEDO SUPPLIER PARK-PAINT SHOP	5/3/2007	BOILER (2), NATURAL GAS	NATURAL GAS	20.4	MMBTU/H	TWO BOILERS WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION. WITH #2 OIL BACKUP TWO SET OF LIMITS, THIS ONE FOR NATURAL GAS		0.15	LB/H		0.78	T/YR		0.0075	LB/MMBTU	
OH-0323	TITAN TIRE CORPORATION OF BRYAN	6/5/2008	BOILER	NATURAL GAS	50.4	MMBTU/H		use of natural gas	0.094	LB/H		0.41	T/YR		1.9	LB/MMSCF	AP-42 FACTOR
*OH-0350	REPUBLIC STEEL	7/18/2012	Steam Boiler	Natural Gas	65	MMBtu/H	Natural Gas-fired stam boiler to vacuum tank degasser		0.48	LB/H		2.1	T/YR		0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Auxillary Boiler	Natural Gas	99	MMBtu/H	99 MMBTU/H auxillary boiler with low-NOx burners and flue gas re-circulation, burning only natural gas. Boiler restricted to 2000 hours of operation per rolling 12-months.	Clean burning fuel, only burning natural gas	0.79	LB/H		0.79	T/YR	PER ROLLING 12-MONTHS	0.008	LB/MMBTU	
OK-0135	PRYOR PLANT CHEMICAL	2/23/2009	BOILERS #1 AND #2	NATURAL GAS	80	MMBTU/H	THE BOILERS WILL PROVIDE THE STEAM NEEDED TO OPERATE THE VARIOUS PIECES OF EQUIPMENT AT THE FACILITY.		0.6	LB/H		0			0		
OK-0135	PRYOR PLANT CHEMICAL	2/23/2009	BOILERS #1 AND #2	NATURAL GAS	80	MMBTU/H	THE BOILERS WILL PROVIDE THE STEAM NEEDED TO OPERATE THE VARIOUS PIECES OF EQUIPMENT AT THE FACILITY.	Natural Gas	0.5	LB/H	24-HOUR	0			0		
OR-0048	CARTY PLANT	12/29/2010	NATURAL GAS-FIRED BOILER	NATURAL GAS	91	MMBTU/H		CLEAN FUEL	2.5	LB/MMSCF		0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			0.005	LB/MMBTU		0.46	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr		Natural Gas	0.46	T/YR		0			0		
SC-0112	NUCOR STEEL - BERKELEY	5/5/2008	VACUUM DEGASSER BOILER	NATURAL GAS	50.21	MMBTU/H		GOOD COMBUSTION PRACTICES PER MANUFACTURER'S GUIDANCE	0.0076	LB/MMBTU		0			0.0076	LB/MMBTU	
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU003	NATURAL GAS	46	MMBTU/H		Natural gas	0.005	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU004	NATURAL GAS	46	MMBTU/H		Natural gas	0.005	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU005	NATURAL GAS	46	MMBTU/H		Natural gas	0.005	LB/MMBTU	3-HOUR	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU006	NATURAL GAS	46	MMBTU/H		Natural gas	0.005	LB/MMBTU	3-HOUR	0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	40	MMBtu/hr	Hot oil heater	Good combustion practice to ensure complete combustion. gaseous fuel	1.31	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	95.7	MMBtu/hr	Three boilers will be used intermittently to provide steam for heating tanks or railcars as necessary to reduce viscosity of heavy liquids.	Use of gaseous fuel with efficient combustion.	7.49	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	13.2	MMBtu/hr	Boiler will be operated continuously to maintain system temperatures in the intermittent boilers and heavy liquid storage tanks.	Good combustion practice to ensure complete combustion.	0.4	T/YR		0			0		
*WY-0075	CHEYENNE PRAIRIE GENERATING STATION	7/16/2014	Auxiliary Boiler	natual gas	25.06	MMBtu/h		good combustion practices	0.0175	LB/MMBTU	3 HOUR AVERAGE	0.4	LB/H	3 HOUR AVERAGE	0		
	Astoria Energy LLC		Auxiliary Boiler	Natural Gas	99	MMBtu/hr		Clean Fuel	0.005	LB/MMBTU	1-hr average	0.495	LB/H	1-hour average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.4	LB/H	1-hr average	0.005	lb/MMBtu	1-hr average			
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Low sulfur fuel.	0.0063	LB/MMBTU	1-hr average						
	Cricket Valley Energy Center		Auxiliary Boiler	Natural Gas	48.63	MMBtu/hr			0.005	LB/MMBTU							
	Pioneer Valley Energy Center		Auxiliary Boiler	Natural Gas	21	MMBtu/hr			0.0048	LB/MMBTU		0.1	LB/H				
	Tenaska Partners LLC		Auxiliary Boiler	Natural Gas	245	MMBtu/hr			0.0075	LB/MMBTU		4	T/YR	12-month rolling			
	Hess Newark Energy Center		Auxilary Boiler	Natural Gas	66.2	MMBtu/hr		Natural gas	0.33	LB/H	1 time stack test	0.005	lb/MMBtu				
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			0.008	LB/MMBTU	12 month-period	0.79	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			1.58	T/YR							
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			0.008	LB/MMBTU	12 month-period	0.11	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			0.46	T/YR							
	Kalama Energy Center		Auxiliary Boiler	Natural Gas	36.5	MMBtu/hr			0.28	LB/H	1-hr avg						
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #1	Natural Gas	61.2	MMBTU/hr			0.01	LB/MMBTU	3-hr						
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #2	Natural Gas	61.2	MMBTU/hr			0.01	LB/MMBTU	3-hr						

Table D-B-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
	Sevier Power Company Power Plant		Auxiliary Boiler #2	Natural Gas	85	Mmbtu/hr			0.01	LB/MMBTU	3-hr						
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #2	Natural Gas	80	MMBtu/hr			0.0075	LB/MMBTU	3-hr	0.6	LB/H	3-hr			
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr		Natural gas	0.005	lb/MMBtu		1.3	T/YR				
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			0.5	LB/H		0.5	T/YR				

Table D-B-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*FL-0363	DANIA BEACH ENERGY CEN	12/4/2017	99.8 MMBtu/hr auxili	Natural gas	99.8	MMBtu/hr	Fueled only with natural gas.	Clean fuels	0			0			0		
IN-0263	MIDWEST FERTILIZER COM	3/23/2017	NATURAL GAS AU	NATURAL GAS	218.6	MMBTU/H		PROPER DESIGN AND GOOD COMBUSTION PRACTICES AT ALL	7.6	LB/MMCF EACH	3 HOUR AVERAGI	0			0		
LA-0305	LAKE CHARLES METHANOL	6/30/2016	Auxiliary Boilers and	Natural Gas	0		Supplement fuel: fuel gas Boilers: 225 MM BTU/hr each	good engineering design and proper operation	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Auxiliary boilers	natural gas	171	mm btu/hr		good combustion practices	0			0			0		
MI-0420	DTE GAS COMPANY--MILFO	6/3/2016	FGAUXBOILERS	Natural gas	6	MMBTU/H	Two natural gas-fired auxiliary boilers, each rated at 6 MMBTU/H fuel heat input. The boilers are	Good combustion practices and low sulfur fuel (pipeline quality natural gas).	0.0075	LB/MMBTU	TEST PROTOCOL	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Au	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Good combustion practices.	1.36	LB/H	HOURLY, TEST PI	0			0		
MI-0424	HOLLAND BOARD OF PUBLI	12/5/2016	EUAUXBOILER (Au	natural gas	83.5	MMBTU/H	One natural gas fired auxiliary boiler rated at 83.5 MMBTU/hr fuel heat input (EUAUXBOILER).	Good combustion practices.	0.007	LB/MMBTU	TEST PROTOCOL	0			0		
MI-0426	DTE GAS COMPANY - MILFO	3/24/2017	FGAUXBOILERS (6	Natural gas	3	MMBTU/H	Four natural gas-fired auxiliary boilers, each rated at 3 MMBTU/H fuel heat input (EUAUXBOIL2	Good combustion practices and low sulfur fuel (pipeline quality natural gas).	0.52	LB/MMSCF	EACH BOILER	0			0		
*MI-0433	MEC NORTH, LLC AND MEC	6/29/2018	EUAUXBOILER (No	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTC	Good combustion practices.	0.46	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC	6/29/2018	EUAUXBOILER (So	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTC	Good combustion practices.	0.46	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CY	7/16/2018	EUAUXBOILER: A	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG	Good combustion practices, low sulfur fuel	0.007	LB/MMBTU	HOURLY	0.7	LB/H	HOURLY	0		
NJ-0084	PSEG FOSSIL LLC SEWAREN	3/10/2016	Auxiliary Boiler firing	natural gas	80	MMBtu/hr	Maximum heat input rate for natural gas fired auxiliary boiler is 80 MMBtu/hr (HHV) permitted to	use of natural gas a clean burning fuel	0.4	LB/H	AV OF THREE ON	0			0		
NJ-0085	MIDDLESEX ENERGY CENT	7/19/2016	AUXILIARY BOILE	Natural GAS	4000	H/YR		USE OF NATURAL GAS A CLEAN BURNING FUEL	0.488	LB/H	AV OF THREE ON	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CE	9/2/2016	Auxilary boiler	Natural Gas	92.4	MMBtu/hr	Operation of the auxiliary boiler shall not exceed 4000 hrs in any continuous 12-month period.	ULSD and good combustion practices	0.007	LB/MMBTU		1.29	TPY	12-MONTH ROLLI	0		
*WV-0031	MOCKINGBIRD HILL COMPR	6/14/2018	WH-1 - Boiler	Natural Gas	8.72	mmBtu/hr	Used to generated heat for the new building associated with the project during the heating season.	Limited to natural gas	0			0			0.28	TON/YEAR	
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.		0.0074	LB/MMBTU	3-HR AVG	0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.		0.0074	LB/MMBTU	3-HR AVG	0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	AUXILIARY BOILER	NATURAL GAS	35	MMBTU/H		OPERATIONAL RESTRICTION OF 500 HR/YR, USE PUC QUALITY NATURAL GAS	0.2	GR S/100 SCF		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	AUXILIARY BOILER	NATURAL GAS	35	MMBTU/H		OPERATIONAL RESTRICTION OF 500 HR/YR	0.2	GR S/100 SCF		0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	AUXILIARY BOILER	NATURAL GAS	37.4	MMBTU/H		USE PUC QUALITY NATURAL GAS, OPERATIONAL LIMIT OF 46,675 MMBTU/YR	0.0034	GR S/100 SCF		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Good Combustion Practice	2	GR S/100 SCF		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Good Combustion Practice	2	GR S/100 SCF		0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period		0.008	LB/MMBTU	AVERAGE OF 3 ONE-HOUR TEST RUNS	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	GOOD COMBUSTION PRACTICES AND FUEL SPECIFICATIONS	0.0075	LB/MMBTU	3 HOURS	0.6	LB/H	3 HOURS	0		
LA-0240	FLOPAM INC.	6/14/2010	Boilers	natural gas	25.1	MMBTU/H		Good equipment design and proper combustion practices, fueled by natural gas/alcohol	0.13	LB/H	HOURLY MAXIMUM	0.005	LB/MMBTU		0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr			0.005	LB/MMBTU	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0.4	LB/H	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0		
MD-0040	CPV ST CHARLES	11/12/2008	BOILER	NATURAL GAS	93	MMBTU/H	AUXILIARY BOILER	USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.005	LB/MMBTU	3-HR AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.0075	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat input each	natural gas	100	MMBTU/H heat input each	There are two auxiliary boilers each rated at less than 100 MMBTU/H heat input. Fuel usage limited to not more than 416.3 MMscf of natural gas in each boiler per 12-month rolling timeperiod as determined at the end of each month.	Efficient combustion; natural gas fuel.	0.007	LB/MMBTU	HEAT INPUT; TEST PROTOCOL WILL SPECIFY	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler B (EUAUXBOILERB)	natural gas	95	MMBTU/H	One natural gas-fired auxiliary boiler rated at 95 MMBtu/hr fuel heat input (EUAUXBOILERB within flexible group FGAUXBOILERS).	Good combustion practices	0.007	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler A (EUAUXBOILERA)	natural gas	55	MMBTU/H	One natural gas-fired auxiliary boiler rated at 55 MMBTU/hr fuel heat input (EUAUXBOILERA within flexible group FGAUXBOILERS).	Good combustion practices	0.007	LB/MMBTU	TEST PROTOCOL	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Commercial/Institutional size boilers less than 100 MMBtu/hr	natural gas	91.6	MMBtu/hr	The auxiliary boiler will have a maximum rated heat capacity of 91.6 MMBtu/h and will be limited to natural gas firing only. It will be operated for the purposes of supplying steam during the start-up of the combined cycle unit. The auxiliaryboiler will be equipped with Dry Low-NOx Burners to comply with BACT and LAER.	Use of Natural gas	0.46	LB/H	AVERAGE OF THREE TESTS	0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Boiler less than 100 MMBtu/hr	Natural Gas	51.9	mmcubic ft/year		use of natural gas a clean fuel	0.33	LB/H	AVERAGE OF THREE TESTS	0			0		
OK-0135	PRYOR PLANT CHEMICAL	2/23/2009	BOILERS #1 AND #2	NATURAL GAS	80	MMBTU/H	THE BOILERS WILL PROVIDE THE STEAM NEEDED TO OPERATE THE VARIOUS PIECES OF EQUIPMENT AT THE FACILITY.		0.6	LB/H		0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			0.005	LB/MMBTU		0.46	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr		Natural Gas	0.46	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
SC-0149	KLAUSNER HOLDING USA, INC	1/3/2013	NATURAL GAS BOILER EU006	NATURAL GAS	46	MMBTU/H		Natural Gas	0.005	LB/MMBTU	3-HOUR	0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	40	MMBtu/hr	Hot oil heater	Good combustion practice to ensure complete combustion, gaseous fuel	1.31	T/YR		0			0		

Table D-B-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Instituti onal-Size Boilers/Furnaces	natural gas	95.7	MMBtu/hr	Three boilers will be used intermittently to provide steam for heating tanks or railcars as necessary to reduce viscosity of heavy liquids.	Use of gaseous fuel with efficient combustion.	7.49	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Instituti onal-Size Boilers/Furnaces	natural gas	13.2	MMBtu/hr	Boiler will be operated continuously to maintain system temperatures in the intermittent boilers and heavy liquid storage tanks.	Good combustion practice to ensure complete combustion.	4	T/YR		0			0		
*WY-0075	CHEYENNE PRAIRIE GENERATING STATION	7/16/2014	Auxiliary Boiler	natual gas	25.06	MMBtu/h		good combustion practices	0.0175	LB/MMBTU	3 HOUR AVERAGE	0.4	LB/H	3 HOUR AVERAGE	0		
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.4	LB/H	1-hr average	0.005	lb/MMBtu	1-hr average			
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Low sulfur fuel.	0.0063	LB/MMBTU	1-hr average						
	Cricket Valley Energy Center		Auxiliary Boiler	Natural Gas	48.63	MMBtu/hr			0.005	LB/MMBTU							
	Pioneer Valley Energy Center		Auxiliary Boiler	Natural Gas	21	MMBtu/hr			0.0048	LB/MMBTU		0.1	LB/H				
	Hess Newark Energy Center		Auxiliary Boiler	Natural Gas	66.2	MMBtu/hr		Natural Gas	0.33	LB/H	1 time stack test	0.005	lb/MMBtu				
	Kalama Energy Center		Auxiliary Boiler	Natural Gas	36.5	MMBtu/hr			0.28	LB/H	1-hr avg						
	PacifiCorp's Lake Side Power Plant		Auxiliary Boiler #2	Natural Gas	61.2	MMBTU/hr			0.01	LB/MMBTU	3-hr						
	Sevier Power Company Power Plant		Auxiliary Boiler #2	Natural Gas	85	Mmbtu/hr			0.01	LB/MMBTU	3-hr						
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #2	Natural Gas	80	MMBtu/hr			0.0075	LB/MMBTU	3-hr	0.6	LB/H	3-hr			
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr		Natural Gas	0.005	lb/MMBtu		1.3	T/YR				
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			0.5	LB/H		0.5	T/YR				

Table D-B-7
Sulfur Dioxide (SO_2) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Auxiliary Boiler, 99.8 MMBtu/hr	Natural gas	99.8	MMBtu/hr	Fires only natural gas. Limited to 2000 hr/yr.	Use of low-sulfur gas	2	GR. S/100 SCF GAS		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	99.8 MMBtu/hr auxiliary boiler	Natural gas	99.8	MMBtu/hr	Fueled only with natural gas.	Clean fuels	0			0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Auxiliary Boilers and Superheaters	Natural Gas	0		Supplement fuel: fuel gas Boilers: 225 MM BTU/hr each	fuel gases and/or pipeline quality natural gas	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Auxiliary Boiler)	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Good combustion practices and the use of pipeline quality natural gas.	0.6	LB/MMSCF	BASED ON FUEL RECEIPT RECORDS	2000	GR/MMSCF	BASED UPON FUEL RECEIPT RECORDS	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (North Plant): Auxiliary Boilder	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices and the use of pipeline quality natural gas.	1.8	LB/MMSCF	MONTHLY	0.6	GR S/100 SCF	FUEL SUPPLIER RECORDS	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (South Plant): Auxiliary Boiler	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including but not limited to steam for sparging, STG seals, etc. The auxiliary boiler is equipped with low NOx burners (LNB) and flue gas recirculation (FGR).	Good combustion practices and the use of pipeline quality natural gas.	1.8	LB/MMSCF	MONTHLY	0.6	GR S/100 SCF	FUEL SUPPLIER RECORDS	0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Auxiliary Boiler firing natural gas	natural gas	687	MMCFT/YR	Maximum heat input rate for natural gas fired auxiliary boiler is 80 MMBtu/hr (HHV) permitted to operate for 8760 hrs/yr.	Use of natural gas a low sulfur fuel	0.12	LB/H		0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	AUXILIARY BOILER	Natural GAS	4000	H/YR		USE OF NATURAL GAS A CLEAN BURNING LOW SULFUR FUEL	0.128	LB/H		0			0		
AL-0230	THYSSENKRUPP STEEL AND STAINLESS USA, LLC	8/17/2007	3 NATURAL GAS-FIRED BOILERS WITH ULNB & EGR (537-539)	NATURAL GAS	64.9	MMBTU each	THIS PROCESS IS COVERED UNDER 503-0095-X026.	Natural gas	0.0006	LB/MMBTU		0.04	LB/H		0		
AL-0231	NUCOR DECATUR LLC	6/12/2007	VACUUM DEGASSER BOILER	NATURAL GAS	95	MMBTU/H		Natural Gas	0.0006	LB/MMBTU		0.057	LB/H		0		
AR-0090	NUCOR STEEL, ARKANSAS	4/3/2006	PICKLE LINE BOILERS, SN-52	NATURAL GAS	12.6	MMBTU EACH			0.1	LB/H		0.1	T/YR		0.0006	LB/MMBTU	
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	TWO 99.8 MMBTU/H GAS-FUELED AUXILIARY BOILERS	NATURAL GAS	99.8	MMBTU/H	PRODUCE 85,000 LB/HR STEAM EACH		2	GR S/100 SCF		0			0		
FL-0335	SUWANNEE MILL	9/5/2012	Four(4) Natural Gas Boilers - 46 MMBtu/hour	Natural Gas	46	MMBTU/H	The four natural gas boilers are used to generate the hot water that is used in the lumber kiln drying process. Two boilers each share a common stack for a total of two stacks. In the initial phase of construction, two natural gas fired boilers will supply hot water to one block of kilns. As other kiln blocks are completed, the two other natural gas boilers will be constructed and brought online. Finally, the two biomass boilers will be built and brought on line.	Good Combustion Practice	2	GR S/100 SCF		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	FUEL SPECIFICATIONS	0.0022	LB/MMBTU	3 HOURS	0.176	LB/H	3 HOURS	0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr			0.9	PPMVD @ 3% O2	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0.0015	LB/MMBTU	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS	0.0006	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Commercial/Institutional size boilers less than 100 MMBtu/hr	natural gas	2000	hours/year	The auxiliary boiler will have a maximum rated heat capacity of 91.6 MMBtu/h and will be limited to natural gas firing only. It will be operated for the purposes of supplying steam during the start-up of the combined cycle unit. The auxiliaryboiler will be equipped with Dry Low-NOx Burners to comply with BACT and LAER.	Use of natural gas	0.162	LB/H	AVERAGE OF THREE TESTS	0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Boiler less than 100 MMBtu/hr	Natural Gas	66.2	MMBtu/hr		use of natural gas a clean fuel and a low sulfur fuel	0.08	LB/H		0			0		
NV-0044	HARRAH'S OPERATING COMPANY, INC.	1/4/2007	COMMERCIAL/INSTITUTIONAL-SIZE BOILERS	NATURAL GAS	35.4	MMBTU/H	THE BACT DETERMINATIONS REPORTED HERIN ARE SPECIFICALLY FOR THE TWO HURST BOILERS INSTALLED AT CAESAR'S PALACE. EACH OF THEM HAS A RATED HEAT INPUT OF 35.4 MMBTU/HR. THE PERMITTING ACTION ALSO APPROVED THE INSTALLATION OF A NUMBER OF SMALL BOILERS, ALL OF WHICH HAVE A RATED HEAT INPUT BELOW THE THRESHOLD OF INSTITUTIONAL SIZE. NATURAL GAS IS THE ONLY FUEL USED FOR ALL BOILERS FOR THIS FACILITY. THE TOTAL INCREASE OF RATED HEAT INPUT FOR ALL THE NEW BOILERS IS 100.7 MMBTU/HR. THE TWO NEW HURST BOILERS HAVE THE COMBINED RATED HEAT INPUT OF 70.8 MMBTU/HR, ACCOUNTING FOR 70% OF THE TOTAL INCREASE.	USE OF NATURAL GAS AS THE ONLY FUEL	0.001	LB/MMBTU		0.04	LB/H		0.001	LB/MMBTU	
NV-0047	NELLIS AIR FORCE BASE	2/26/2008	BOILERS/HEATERS - NATURAL GAS-FIRED	NATURAL GAS	6.5	MMBtu/hr	THE FACILITY HAS 125 REGULATED UNITS AND 142 EXEMPT UNITS. UNIT RB013 (RITE BOILER, 6.5 MMBTU/HR) IS SELECTED TO SHOW THE BACT DETERMINATIONS.	USE OF PIPELINE-QUALITY NATURAL GAS	0.0015	LB/MMBTU		0.01	LB/H		0.0015	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT FL01	NATURAL GAS	14.34	MMBTU/H	UNIT FL01 IS A JOHNSTON BOILER AT FLAMINGO LAS VEGAS. THIS UNIT MAY OPERATE 8,760 HOURS PER YEAR.	FUEL IS LIMITED TO NATURAL GAS.	0.0006	LB/MMBTU		0.0091	LB/H		0.0006	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA01	NATURAL GAS	16.8	MMBTU/H	UNIT BA01 IS A KEWANEE BOILER AT BALLY'S LAS VEGAS. UNIT BA01 IS IDENTICAL TO UNIT BA02. THE TWO BOILERS ARE SUBJECT TO THE ANNUAL LIMIT OF COMBINED TOTAL OPERATING TIME FOR 10,900 HOURS PER YEAR.	FUEL IS LIMITED TO NATURAL GAS.	0.0042	LB/MMBTU		0.01	LB/H		0.0042	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT BA03	NATURAL GAS	31.38	MMBTU/H	UNIT BA03 IS A KIWANEE BOILER AT BALLY'S LAS VEGAS. THE ANNUAL OPERATING TIME IS LIMITED TO 2,920 HOURS PER YEAR.	FUEL IS LIMITED TO NATURAL GAS.	0.0006	LB/MMBTU		0.02	LB/H		0.0006	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP01	NATURAL GAS	35.4	MMBTU/H	UNIT CP01 IS A HURST BOILER AT CAESAR'S PALACE. UNIT CP01 IS IDENTICAL TO UNIT CP02. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	FUEL IS LIMITED TO NATURAL GAS.	0.0006	LB/MMBTU		0.02	LB/H		0.0006	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP03	NATURAL GAS	33.48	MMBTU/H	UNIT CP03 IS A BURNHAM BOILER AT CAESAR'S PALACE. UNITS CP01 THROUGH CP05 (FIVE BOILERS) ARE SUBJECT TO THE ANNUAL LIMIT OF TOTAL OPERATING TIME FOR 33,520 HOURS PER YEAR.	FUEL IS LIMITED TO NATURAL GAS.	0.0006	LB/MMBTU		0.02	LB/H		0.0006	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT CP26	NATURAL GAS	24	MMBTU/H	UNIT CP26 IS A UNILUX BOILER AT CAESAR'S PALACE. THE UNIT IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	FUEL IS LIMITED TO NATURAL GAS.	0.0006	LB/MMBTU		0.01	LB/H		0.0006	LB/MMBTU	
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	BOILER - UNIT IP04	NATURAL GAS	16.7	MMBTU/H	UNIT IP04 IS A KEWANEE BOILER AT IMPERIAL PALACE. UNIT IP04 IS IDENTICAL TO UNIT IP05. EITHER BOILER IS ALLOWED TO OPERATE UP TO 8,760 HOURS PER YEAR.	FUEL IS LIMITED TO NATURAL GAS.	0.0006	LB/MMBTU		0.01	LB/H		0.0006	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC001, CC002, AND CC003 AT CITY CENTER	NATURAL GAS	41.64	MMBTU/H	THE THREE UNITS ARE IDENTICAL NEBRASKA BOILERS, EACH OF WHICH IS RATED AT 41.64 MMBTU/HR. EACH UNIT IS ALLOWED TO OPERATE 24 HOURS/DAY AND UP TO 5,800 HOURS/ YEAR. THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	LIMITING THE FUEL TO NATURAL GAS ONLY.	0.0007	LB/MMBTU		0.72	LB/D		0.0007	LB/MMBTU	
NV-0050	MGM MIRAGE	11/30/2009	BOILERS - UNITS CC026, CC027 AND CC028 AT CITY CENTER	NATURAL GAS	44	MMBTU/H	THE THREE UNITS ARE IDENTICAL CATERPILLAR BOILERS, EACH RATED AT 44 MMBTU/HR. EACH UNIT IS SUBJECT TO THE ANNUAL LIMIT OF OPERATING TIME TO 5,800 HOURS. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #13 DATED NOVEMBER 30, 2009.	LIMITING THE FUEL TO NATURAL GAS ONLY	0.0007	LB/MMBTU		0.03	LB/H		0.0007	LB/MMBTU	
NY-0095	CAITHNES BELLPORT ENERGY CENTER	5/10/2006	AUXILIARY BOILER	NATURAL GAS	29.4	MMBTU/H	4800 H/YR	LOW SULFUR FUEL	0.0005	LB/MMBTU		0			0		

Table D-B-7
Sulfur Dioxide (SO_2) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
OH-0309	TOLEDO SUPPLIER PARK-PAINT SHOP	5/3/2007	BOILER (2), NATURAL GAS	NATURAL GAS	20.4	MMBTU/H	TWO BOILERS WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION. WITH #2 OIL BACKUP TWO SET OF LIMITS, THIS ONE FOR NATURAL GAS		0.01	LB/H		3.64	T/YR		0.0006	LB/MMBTU	
*OH-0350	REPUBLIC STEEL	7/18/2012	Steam Boiler	Natural Gas	65	MMBtu/H	Natural Gas-fired stam boiler to vacuum tank degasser	Natural Gas	0.037	LB/H		0.16	T/YR		0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	AUXILIARY BOILER	NATURAL GAS	33.5	MMBTU/H		LOW SULFUR FUEL	0.03	LB/H		0.00090	LB/MMBTU		0		
OK-0135	PRYOR PLANT CHEMICAL	2/23/2009	BOILERS #1 AND #2	NATURAL GAS	80	MMBTU/H	THE BOILERS WILL PROVIDE THE STEAM NEEDED TO OPERATE THE VARIOUS PIECES OF EQUIPMENT AT THE FACILITY.		0.2	LB/H		0.2	LB/MMBTU	STATE LIMIT	0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			0.0021	LB/MMBTU		0.19		12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr		Natural Gas	0.19	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
SC-0112	NUCOR STEEL - BERKELEY	5/5/2008	VACUUM DEGASSER BOILER	NATURAL GAS	50.21	MMBTU/H		NATURAL GAS COMBUSTION WITH GOOD COMBUSTION PRACTICES PER MANUFACTURER'S GUIDANCE	0.0006	LB/MMBTU		0			0.0006	LB/MMBTU	
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	40	MMBtu/hr	Hot oil heater	Good combustion practice to ensure complete combustion.	5	GR S/100 SCF		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	95.7	MMBtu/hr	Three boilers will be used intermittently to provide steam for heating tanks or railcars as necessary to reduce viscosity of heavy liquids.	Fuel total sulfur content will be less than or equal to 5 grains/100 dscf.	5	GR S/100 SCF		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	13.2	MMBtu/hr	Boiler will be operated continuously to maintain system temperatures in the intermittent boilers and heavy liquid storage tanks.	Good combustion practice to ensure complete combustion.	5	GR S/100 SCF		0			0		
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.12	LB/H	1-hr average	0.0015	lb/MMBtu	1-hr average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.9	PPMVD @ 15% O2	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Low sulfur fuel.	0.0022	LB/MMBTU	1-hr average						
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			0.003	LB/MMBTU	12 month-period	0.3	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	106	MMBTU/hr			0.6	T/YR							
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			0.003	LB/MMBTU	12 month-period	0.04	LB/H	12 month-period			
	SUNBURY GENERATION LP		Auxiliary Boiler	Natural Gas	15	MMBTU/hr			0.17	T/YR							
	LAWRENCE ENERGY CENTER LLC		Auxiliary Boiler	Natural Gas	99	MMBTU/hr			0.0057	LB/MMBTU		0.56	LB/H	12 month-period			
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 1	Natural Gas	140.196	MCF/hr			4	LB/H							
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 2	Natural Gas	140.196	MCF/hr			4	LB/H							
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 5	Natural Gas	66.176	MCF/hr			4	LB/H							
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 6	Natural Gas	151.96	MCF/hr			4	LB/H							
	PA STATE UNIV/UNIV PARK CAMPUS		WCSP Boiler 8	Natural Gas	151.96	MCF/hr			4	LB/H							
	PA STATE UNIV/UNIV PARK CAMPUS		ECSP Boiler 1	Natural Gas	127.45	MCF/hr			4	LB/H							
	PA STATE UNIV/UNIV PARK CAMPUS		ECSP Boiler 2	Natural Gas	127.45	MCF/hr			4	LB/H							
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #4	Natural Gas	82	MMBtu/hr			0.0022	LB/MMBTU	3-hr	0.176	LB/H	3-hr			
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr			0.4	T/YR							
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			0.06	LB/H		0.06	T/YR				

Table D-B-8
Sulfuric Acid Mist (H_2SO_4) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	99.8 MMBtu/hr auxiliary boiler	Natural gas	99.8	MMBtu/hr	Fueled only with natural gas.	Clean fuels	2	GR S/100 SCF		0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUAUXBOILER: Auxiliary Boiler	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler	Good combustion practices, low sulfur fuel	0.34	GR S/100 SCF	FUEL SUPPLIER RECORDS	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING	3/10/2016	Auxiliary Boiler firing natural gas	natural gas	687	MMCFT/YR	Maximum heat input rate for natural gas fired auxiliary boiler is 80 MMBtu/hr (HHV) permitted to operate for 8760 hrs/yr.	Use of natural gas a low sulfur fuel	0.02	LB/H		0			0		
NJ-0085	MIDDLESEX ENERGY CENTER, LLC	7/19/2016	AUXILIARY BOILER	Natural GAS	4000	H/YR		USE OF NATURAL GAS A CLEAN BURNING AND LOW SULFUR FUEL	0.01	LB/H		0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Auxiliary boiler	natural gas	60	MMBTU/H	Limited to 4,500 H/YR	natural gas with maximum sulfur content 0.4 grains/100 dscf	1.1	10-4 LB/MMBTU	1 H	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Auxilary boiler	Natural Gas	92.4	MMBtu/hr	Operation of the auxiliary boiler shall not exceed 4000 hrs in any continuous 12-month period.	ULSD and good combustion practices	0.0011	LB/MMBTU	AVG OF 3 1-HR TEST RUNS	20	TPY	12-MONTH ROLLING BASIS	0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	Auxiliary Boiler	Natural Gas	77.8	mmBtu/hr	Annual emission based on 4600 hours/year.	Use of Natural Gas	0.0132	LB/HR		0.03	TONS/YEAR		0.0002	LB/MMBTU	
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period	Use of natural gas, limit of 288.7 MMSCF of NG per year	0.0055	LB/H	AVERAGE OF 3 ONE-HOUR TEST RUNS	0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr			0.0009	LB/MMBTU	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0.35	PPMVD @ 3% O2	1 HR BLOCK AVG, DOES NOT APPLY DURING SS	0		
MD-0040	CPV ST CHARLES	11/12/2008	BOILER	NATURAL GAS	93	MMBTU/H	AUXILIARY BOILER	LOW SULFUR NATURAL GAS WITH A SULFUR CONTENT OF 2.0 GR/100 SCF ON A SHORT-TERM BASIS AND 0.3 GR/100 SCF ON AN ANNUAL BASIS	0.0001	LB/MMBTU	3-HR AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	AUXILLARY BOILER	NATURAL GAS	45	MMBTU/H	NATURAL GAS FUEL ONLY, OPERATION OF ULTRA LOW-NOX BURNER TECHNOLOGY, GOOD COMBUSTION PRACTICES, MAX HEAT INPUT OF 90,000 MMBUT/HR PER 12-MONTH ROLLING PERIOD	EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS	0.004	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Auxillary Boiler	Natural Gas	99	MMBtu/H	99 MMBTU/H auxillary boiler with low-NOx burners and flue gas re-circulation, burning only natural gas. Boiler restricted to 2000 hours of operation per rolling 12-months.	only burning natural gas 0.5 GR/100 SCF	0.011	LB/H		0.011	T/YR	PER ROLLING 12-MONTHS	0.0001	LB/MMBTU	
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			0.0005	LB/MMBTU		0.04	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr			0.04	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.072	LB/H	1-hr average	0.0009	lb/MMBtu	1-hr average			
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	0.35	PPMVD @ 15% O2	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Auxiliary Boiler	Natural Gas	73.5	MMBtu/hr		Low sulfur fuel.	0.0002	LB/MMBTU	1-hr average						
	Hess Newark Energy Center		Auxilary Boiler	Natural Gas	66.2	MMBtu/hr			0.006	LB/H							
	Woodbridge Energy Center		Auxiliary Boiler	Natural Gas	91.6	MMBtu/H		Use of natural gas	0.00014	LB/MMBTU		0.012	LB/H				
	York Energy Center Block 2	42170	Auxiliary Boiler	Natural Gas	61	MMBtu/hr		Use of natural gas with sulfur content limited to 0.5 gr/ 100 dscf	0.000046	lb/MMBtu		0.0122	T/YR				
	MOUNDSVILLE COMBINED CYCLE POWER PLANT	41773	Auxiliary Boiler	Natural Gas	100	MMBtu/hr			0.01	LB/H		0.01	T/YR				

Table D-B-9
Greenhouse Gases (GHG) RBLC Search - Auxiliary Boiler
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Auxiliary Boiler, 99.8 MMBtu/hr	Natural gas	99.8	MMBtu/hr	Fires only natural gas. Limited to 2000 hr/yr.	Use of natural gas only	0			0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017 ACT	NATURAL GAS AUXILIARY	NATURAL GAS	218.6	MMBTU/H		GOOD COMBUSTION PRACTICES AT ALL TIMES THE BOILERS ARE IN	59.61	TON/MMCF EACH	3 HOUR AVERAGE	1877.39	MMCF/12 MONTH EACH	ROLLING AVERAGE	0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Auxiliary Boilers and Superheaters	Natural Gas	0		Supplement fuel: fuel gas Boilers: 225 MM BTU/hr each	good equipment design and good combustion practices	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Auxiliary boilers	natural gas	171	mm btu/hr		good combustion/operating/maintenance practices and fueled by natural gas	0			0			0		
MI-0420	DTE GAS COMPANY– MILFORD COMPRESSOR	6/3/2016	FGAUXBOILERS	Natural gas	6	MMBTU/H	Two natural gas-fired auxiliary boilers, each rated at 6 MMBTU/H fuel heat input. The boilers are identified as EUAUXBOIL2 and EUAUXBOIL3 within the flexible group FGAUXBOILERS.	Use of pipeline quality natural gas and energy efficiency measures.	6155	T/YR	12-MO ROLLING TIME PERIOD	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUAUXBOILER (Auxiliary Boiler)	natural gas	182	MMBTU/H	One natural gas-fired auxiliary boiler rated at 182 MMBTU/H fuel heat input.	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural	93346	T/YR	12-MO ROLLING TIME PERIOD	0			0		
MI-0424	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH	12/5/2016	EUAUXBOILER (Auxiliary boiler)	natural gas	83.5	MMBTU/H	One natural gas fired auxiliary boiler rated at 83.5 MMBTU/hr fuel heat input (EUAUXBOILER).	Good combustion practices.	43283	T/YR	12-MO ROLLING TIME PERIOD	0			0		
MI-0426	DTE GAS COMPANY - MILFORD COMPRESSOR	3/24/2017	FGAUXBOILERS (6 auxiliary boilers	Natural gas	3	MMBTU/H	Four natural gas-fired auxiliary boilers, each rated at 3 MMBTU/H fuel heat input (EUAUXBOIL2A, EUAUXBOIL3A, EUAUXBOIL2B and EUAUXBOIL3B in	Use of pipeline quality natural gas and energy efficiency measures.	7324	T/YR	COMBINED FOR ALL BOILERS	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (North Plant):	Natural gas	61.5	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural	31540	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUAUXBOILER (South Plant):	Natural gas	61.5	MMBTU/h	A natural gas-fired auxiliary boiler, rated at 61.5 MMBTU/H (HHV) to facilitate startup of the CTGHRSG train and to provide the required steam to support the startup of the facility, including	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural	31540	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUAUXBOILER: Auxiliary Boiler	Natural gas	99.9	MMBTU/H	A natural gas-fired auxiliary boiler, rated at 99.9 MMBTU/H to facilitate startup of the CTG/HRSG trains and to provide steam to the steam turbine generator seals. The auxiliary boiler	Energy efficiency measures, use of natural gas.	25623	T/YR	12-MO ROLLING TIME PERIOD	0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Auxiliary boiler	natural gas	60	MMBTU/H	Limited to 4,500 H/YR	good combustion practiced and pipeline quality natural gas	119	LB/MMBTU	12 MO	0			0		
TX-0813	ODESSA PETROCHEMICAL PLANT	11/22/2016	Boilers	natural gas	223	MMBTU/H	2 boilers	Minimum thermal design efficiency of 75 percent	63796	T/YR		0			0		
*WV-0029	HARRISON COUNTY POWER PLANT	3/27/2018	Auxiliary Boiler	Natural Gas	77.8	mmBtu/hr	Annual emission based on 4600 hours/year.	Use of Natural Gas	9107	LB/HR		20837	TONS/YEAR		9107	LB/HR	
*WV-0031	MOCKINGBIRD HILL COMPRESSOR STATION	6/14/2018	WH-1 - Boiler	Natural Gas	8.72	mmBtu/hr	Used to generated heat for the new building associated with the project during the heating season.	Limited to natural gas; and tune-up the boiler once every five years.	0			0			4468	TON/YEAR	12-MONTH ROLLING
*WV-0031	MOCKINGBIRD HILL COMPRESSOR STATION	6/14/2018	EG-1 - Auxiliary (Emergency)	Natural Gas	755	hp	Used to supply electrical power to the facility in the event of loss of service from the local provider.	Engine Manufacturer's design; limited to natural gas; and tune-up the engine once	0			0			161	TON/YEAR	12-MONTH ROLLING
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Five (5) Waste Heat Boilers	Natural Gas	50	MMBtu/hr	Five (5) Natural Gas-Fired 50 MMBtu/hr Waste Heat Boilers. Installed in 1986.		59.61	TONS/MMCF	3-HR AVG	131405	T/YR	COMBINED	0		
AL-0231	NUCOR DECATUR LLC	6/12/2007	VACUUM DEGASSER BOILER	NATURAL GAS	95	MMBTU/H			0.061	LB/MMBTU		5.8	LB/H		0		
*AL-0282	LENZING FIBERS, INC.	1/22/2014	Natural Gas Fired Boilers (3)	Natural Gas	100	mm btu/hr		Good combustion practices	112508	T/YR	12 - MONTH ROLLING	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period		17313	T/YR	12-MONTH ROLLING TOTAL	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	auxiliary boiler	natural gas	60.1	mmBtu/hr	fuel limit of 288.7 million cubic feet of natural gas per 12-month rolling period		17313	T/YR	12-MONTH ROLLING TOTAL	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) NATURAL GAS AUXILIARY BOILERS	NATURAL GAS	80	MMBTU/H	BOTH BOILERS, LABELED AS B001 AND B002, ARE EQUIPPED WITH LOW NOX BURNERS WITH FLUE GAS REGULATION. THIS IS CONSIDERED A STEAM GENERATING UNIT.	OPERATION AND MAINTENANCE PRACTICES; COMBUSTION TURNING; OXYGEN TRIM CONTROLS & ANALYZERS; ECONOMIZER; ENERGY EFFICIENT REFRACTORY; CONDENSATE RETURN SYSTEM, INSULATE STEAM AND HOT LINES.	81996	T/YR	12 CONSECUTIVE MONTH PERIOD	80	% HHV		0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Auxiliary Boiler	Natural Gas	80	MMBtu/hr			119	LB/MMBTU		0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	FGAUXBOILERS: Two auxiliary boilers < 100 MMBTU/H heat input each	natural gas	100	MMBTU/H heat input each	There are two auxiliary boilers each rated at less than 100 MMBTU/H heat input. Fuel usage limited to not more than 416.3 MMscf of natural gas in each boiler per 12-month rolling timeperiod as determined at the end of each month.	Efficient combustion; energy efficiency.	24304	T/YR	12-MO ROLL TIME PERIOD EACH MONTH	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler B (EUAUXBOILERB)	natural gas	95	MMBTU/H	One natural gas-fired auxiliary boiler rated at 95 MMBtu/hr fuel heat input (EUAUXBOILERB within flexible group FGAUXBOILERS).	Good combustion practices	49251	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Auxiliary Boiler A (EUAUXBOILERA)	natural gas	55	MMBTU/H	One natural gas-fired auxiliary boiler rated at 55 MMBTU/hr fuel heat input (EUAUXBOILERA within flexible group FGAUXBOILERS).	Good combustion practices	28514	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Auxillary Boiler	Natural Gas	99	MMBtu/H	99 MMBTU/H auxillary boiler with low-NOx burners and flue gas re-circulation, burning only natural gas. Boiler restricted to 2000 hours of operation per rolling 12-months.		11671	T/YR	PER ROLLING 12-MONTHS	0			0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Auxiliary boiler	natural gas	39.8	MMBtu/hr		Clean fuels	117	LB CO2/MMBTU	3-HR BLOCK AVERAGE	0			0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Auxiliary boiler	natural gas	39.8	MMBtu/hr		Clean fuels	117	LB CO2/MMBTU	3-HR BLOCK AVERAGE	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	AUXILIARY BOILER	Natural Gas	40	MMBTU/H			13696	T/YR	12-MONTH ROLLING BASIS	0			0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Auxiliary Boiler	Natural Gas	40	MMBtu/hr			12346	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	40	MMBtu/hr	Hot oil heater	Good combustion practice to ensure complete combustion.	20758	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	95.7	MMBtu/hr	Three boilers will be used intermittently to provide steam for heating tanks or railcars as necessary to reduce viscosity of heavy liquids.	Good combustion practices and use of low carbon fuel	119195	T/YR		0			0		
*TX-0772	PORT OF BEAUMONT PETROLEUM TRANSLOAD TERMINAL (PBPTT)	11/6/2015	Commercial/Institutional-Size Boilers/Furnaces	natural gas	13.2	MMBtu/hr	Boiler will be operated continuously to maintain system temperatures in the intermittent boilers and heavy liquid storage tanks.	Good combustion practice to ensure complete combustion.	6850	T/YR		0			0		
*WY-0075	CHEYENNE PRAIRIE GENERATING STATION	7/16/2014	Auxiliary Boiler	natual gas	25.06	MMBtu/h		good combustion practices and energy efficiency	12855	T/YR	12 MONTH ROLLING	0			0		
	Footprint Power Salem Harbor Development LP		Auxiliary Boiler	Natural Gas	80	MMBtu/hr		Pipeline quality NG	119	LB/MMBTU	1-hr average						
	Hess Newark Energy Center		Auxilary Boiler	Natural Gas	66.2	MMBtu/hr			0.151	LB/H							
	Hess Newark Energy Center		Auxilary Boiler	Natural Gas	66.2	MMBtu/hr			7788	LB/H	3-hr rolling						
	Kalama Energy Center		Auxiliary Boiler	Natural Gas	159870	MMBTU per 12 mo rolling			9353	T/YR	12-mo rolling						
	Kalama Energy Center		Auxiliary Boiler	Natural Gas	159870	MMBTU per 12 mo rolling			9353	T/YR	12-mo rolling						
	St. Joseph's Energy Center		Auxiliary Boilers #1 and #7	Natural Gas	85	MMBtu/hr			81996	T/YR	12 months						
	Woodbridge Energy Center		Auxiliary Boiler	Natural Gas	180	MMscf/yr			2000	hrs/year operation							

Table D-C-1
Nitrogen Oxides (NO_x) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Boilers and Hea	Natural Gas a	29.29	MMBtu/hr	Two (2) natural gas and diesel fired 2	Good Combustion Practices	0.154	LB/MMBTU (ULS	3-HOUR AVERAG	0.098	LB/MMBTU (NAT	3-HOUR AVERAG	0		
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Two (2) Heater	Natural Gas	16.5	MMBtu/hr	Two (2) 16.5 MMBtu/hr heaters (nat	Low-NOx Burners	0.154	LB/MMBTU (ULS	3-HOUR AVERAG	0.049	LB/MMBTU (NAT	3-HOUR AVERAG	0		
FL-0356	OKEECHOBEE CLEAN ENI	3/9/2016	Two natural gas	Natural gas	10	MMBtu/hr	Fueled only with gas. May operate on	Must have NOx emission design value less than 0.1 lb/MMBtu	0.1	LB/MMBTU		0			0		
*FL-0363	DANIA BEACH ENERGY C	12/4/2017	Two natural gas	Natural gas	9.9	MMBtu/hr		Manufacturer certification	0.1	LB/MMBTU	DESIGN VALUE	0			0		
IN-0263	MIDWEST FERTILIZER CO	3/23/2017	STARTUP HEA	NATURAL G	70	MMBTU/HR		GOOD COMBUSTION PRACTICES	12.611	LB/H	3 HOUR AVERAG	200	H/YR		0		
LA-0305	LAKE CHARLES METHAN	6/30/2016	Gasifier Start-u	Natural gas	23	MM BTU/hr (each)		good engineering practices, good combustion technology, and use of clean fuels	0			0			0		
LA-0305	LAKE CHARLES METHAN	6/30/2016	WSA Preheat B	Natural Gas	0			good engineering design and practices and use of clean fuels	0			0			0		
LA-0307	MAGNOLIA LNG FACILIT	3/21/2016	Regenerative H	natural gas	7.37	mm btu/hr		good combustion practices	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGFUELHTR (	Natural gas	27	MMBTU/H	Two natural gas fired dew point heate	Good combustion practices.	2.65	LB/H	HOURLY; EACH	0			0		
*MI-0435	BELLE RIVER COMBINED	7/16/2018	EUFUELHTR1	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H	Low NOx burner	0.75	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED	7/16/2018	EUFUELHTR2	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H ha	Low NOx burner	0.14	LB/H	HOURLY	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	dew point heater	natural gas	13.32	mmBtu/hr			0.013	LB/MMBTU	3-HOUR AVERAGE	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	HEATER	NATURAL GAS	1.7	MMBTU/H	FUEL GAS HEATER		0.1	LB/MMBTU		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		USE OF EFFICIENT DESIGN OF THE HEATER, EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS ONLY, AND APPLICATION OF GOOD COMBUSTION PRACTICES	0.049	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	FUEL GAS HEATER (H2O BATH)		18.8	MMBTU/H			2.7	LB/H		0			0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	DEW POINT HEATER	Natural Gas	15	MMBTU/H	Source shall only be fired on pipeline quality natural gas. Source shall not be operated in excess of 8,275 hours in any 12 consecutive month period.		0.085	LB/MMBTU		5.25	T/YR	IN ANY 12 CONSECUTIVE MONTH PERIOD	0		
*TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	5/20/2014	fuel gas heater	natural gas	18	MMBtu/hr			0.1	LB/MMBTU		0			0		
*TX-0694	INDECK WHARTON ENERGY CENTER	2/2/2015	heater	natural gas	3	MMBtu/hr			0.1	LB/MMBTU	1 HOUR	0			0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Forced draft low NOx Burner	0.058	lb/MMBtu	1-hr average						

Table D-C-2
Carbon Monoxide (CO) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	STARTUP HEATER EU-002	NATURAL GAS	70	MMBTU/HR		GOOD COMBUSTION PRACTICES	2.556	LB/H	3 HOUR AVERAGE	200	H/YR		0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Gasifier Start-up Preheat Burners	Natural gas	23	MM BTU/hr (each)		good engineering practices, good combustion technology, and use of clean fuels	0			0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	WSA Preheat Burners	Natural Gas	0			good engineering design and practices and use of clean fuels	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Regenerative Heaters	natural gas	7.37	mm btu/hr		good combustion practices	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	EUFLTOS1 in FGTOH (Thermal Oil System for Thermally Fused Lamination Lines)	Natural gas	34	MMBTU/H	One natural gas fired thermal oil system for thermally fused lamination lines rated at 10.2 MMBTU/H fuel heat input (EUFLTOS1 in FGTOH).	Good design and operation	0.082	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	3.69	T/YR	BASED UPON 12-MO ROLLING TIME PERIOD	0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	EUTOH (In FGTOH)--Thermal Oil Heater	Natural gas	34	MMBTU/H	One natural gas fired thermal oil heater for press and sifter rated at 34 MMBTU/H fuel heat input (EUTOH in FGTOH). All falls under RBLC Process Type Code 30.590.	Good design and operation	0.082	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME.	12.3	T/YR	12-MO ROLLING TIME PERIOD	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 & EUFUELHTR2)	Natural gas	27	MMBTU/H	Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in flexible group FGFUELHTR). The total combined heat input during operation shall not exceed 27 MMBTU/H (each) as well. The CO2e limit is for both units combined; however the other limits are per unit.	Good combustion practices.	2.22	LB/H	HOURLY; EACH UNIT	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUTOH in FGTOH	Natural gas	38	MMBTU/H	One natural gas-fired thermal oil heater for press and sifter rated at 38 MMBTU/hr fuel heat input (EUTOH in FGTOH). Also falls under the RBLC Process Type Code 30.590.	Good design and operation.	0.082	LB/MMBTU	TEST PROTOCOL SHALL SPECIFY	13.71	T/YR	12-MO ROLLING TIME PERIOD	0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUFLTOS1 in FGTOH	Natural gas	10.2	MMBTU/H	One natural gas-fired thermal oil system for thermally fused lamination lines rated at 10.2 MMBTU/H fuel heat input (EUFLTOS1 in FGTOH). Note: The throughput capacity, 10.2 MMBTU/H, is not a change but instead a correction from the previous entry. The previous entry is under MI-0421 for the original permit.	Good design and operation.	0.082	LB/MMBTU	TEST PROTOCOL SHALL SPECIFY	3.69	T/YR	12-MO ROLLING TIME PERIOD	0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR1: Natural gas fired fuel heater	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.	Good combustion controls.	0.77	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR2: Natural gas fired fuel heater	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.	Good combustion controls	0.14	LB/H	HOURLY	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Dew point heater 13.8		0				0.08	LB/MMBTU		0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Dew point heater 3.2	Natrual Gas	3.2	MMBtu/hr			0.08	LB/MMBTU		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	AUXILIARY BOILER (1) AND FUEL GAS HEATERS (6)	NATURAL GAS	185	MMBTU/HR	The auxiliary boiler will provide steam to the steam turbine at startup and at cold starts to warm up the ST rotor. The steam from the auxiliary boiler will not be used to augment the power generation of the combustion turbines or steam turbine. The boiler is proposed to operate 8760 hrs/yr but will be limited by an annual fuel throughput based on a capacity factor of 10%.	Clean fuel and good combustion practices	0.035	LBS/MMBTU		6.6	LB/H		0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	dew point heater	natural gas	13.32	mmBtu/hr			0.041	LB/MMBTU	3-HOUR AVERAGE	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	HEATER	NATURAL GAS	1.7	MMBTU/H	FUEL GAS HEATER		0.08	LB/MMBTU		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		USE OF EFFICIENT DESIGN OF THE HEATER, EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS ONLY, AND APPLICATION OF GOOD COMBUSTION PRACTICES	0.083	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	FUEL GAS HEATER (H2O BATH)		18.8	MMBTU/H			0.39	LB/H		0			0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	DEW POINT HEATER	Natural Gas	15	MMBTU/H	Source shall only be fired on pipeline quality natural gas. Source shall not be operated in excess of 8,275 hours in any 12 consecutive month period.		0.037	LB/MMBTU		2.28	T/YR	IN ANY 12 CONSECUTIVE MONTH PERIOD	0		
*TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	5/20/2014	fuel gas heater	natural gas	18	MMBtu/hr			0.054	LB/MMBTU		0			0		
*TX-0694	INDECK WHARTON ENERGY CENTER	2/2/2015	heater	natural gas	3	MMBtu/hr			0.04	LB/MMBTU	1 HOUR	0			0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Good combustion controls.	0.084	lb/MMBtu	1-hr average						

Table D-C-3
Volatile Organic Compound (VOC) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Boilers and Heaters (natural gas and	Natural Gas and Diesel	29.29	MMBtu/hr	Two (2) natural gas and diesel fired 29.29 MMBtu/hr process heaters, one (1) natural gas and diesel fired 20.66 MMBtu/hr boiler, one (1) natural gas and diesel	Good Combustion Practices	0.0015	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0054	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Two (2) Heaters (natural gas and	Natural Gas	16.5	MMBtu/hr	Two (2) 16.5 MMBtu/hr heaters (natural gas and diesel fired).	Good Combustion Practices	0.0015	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0054	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	STARTUP HEATER EU-002	NATURAL GAS	70	MMBTU/HR		GOOD COMBUSTION PRACTICES	0.378	LB/H	3 HOUR AVERAGE	200	H/YR		0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Regenerative Heaters	natural gas	7.37	mm btu/hr		good combustion practices	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	EUTOH (In FGTOH)--Thermal	Natural gas	34	MMBTU/H	One natural gas fired thermal oil heater for press and sifter rated at 34 MMBTU/H fuel heat input (EUTOH in FGTOH). All falls under RBLC Process Type Code	Good design and operating/combustion practices.	0.0054	LB/MMBTU	TEST PROTOCOL	0.8	T/YR	BASED UPON A 12-MO ROLLING	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGFUELHTR (Two fuel pre-heaters	Natural gas	27	MMBTU/H	Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in flexible group FGFUELHTR). The total	Good combustion practices.	0.15	LB/H	HOURLY; EACH FUEL HEATER	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR1: Natural gas fired fuel	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.	Good combustion controls	0.17	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR2: Natural gas fired fuel	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.	Good combustion controls.	0.03	LB/H	HOURLY	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	HEATER	NATURAL GAS	1.7	MMBTU/H	FUEL GAS HEATER		0.005	LB/MMBTU		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		USE OF EFFICIENT DESIGN OF THE HEATER, EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS ONLY, AND APPLICATION OF GOOD COMBUSTION PRACTICES	0.005	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	FUEL GAS HEATER (H2O BATH)		18.8	MMBTU/H			0.1	LB/H		0			0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	DEW POINT HEATER	Natural Gas	15	MMBTU/H	Source shall only be fired on pipeline quality natural gas. Source shall not be operated in excess of 8,275 hours in any 12 consecutive month period.		0.006	LB/MMBTU		0.34	T/YR	IN ANY 12 CONSECUTIVE MONTH PERIOD	0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Good combustion controls.	0.011	lb/MMBtu	1-hr average						

Table D-C-4
Particulate Matter (PM) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Boilers and Heaters (natural gas and	Natural Gas and Diesel	29.29	MMBtu/hr	Two (2) natural gas and diesel fired 29.29 MMBtu/hr process heaters, one (1) natural gas and diesel fired 20.66 MMBtu/hr boiler, one (1) natural gas and	Clean Fuel and Good Combustion Practices	0.0254	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0075	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Two (2) Heaters (natural gas and	Natural Gas	16.5	MMBtu/hr	Two (2) 16.5 MMBtu/hr heaters (natural gas and diesel fired).	Clean Fuel and Good Combustion Practices	0.0254	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0075	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	STARTUP HEATER EU-002	NATURAL GAS	70	MMBTU/HR		GOOD COMBUSTION PRACTICE	0.13	LB/H	3HR AVERAGE	200	H/YR		0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	EUTOH (In FGTOH)--Thermal	Natural gas	34	MMBTU/H	One natural gas fired thermal oil heater for press and sifter rated at 34 MMBTU/H fuel heat input (EUTOH in FGTOH). All falls under RBLC Process	Good combustion practices	0.0075	LB/MMBTU	TEST PROTOCOL	1.1	T/YR	BASED UPON A 12-MO ROLLING	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGFUELHTR (Two fuel pre-heaters	Natural gas	27	MMBTU/H	Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in flexible group FGFUELHTR). The total	Good combustion practices.	0.002	LB/MMBTU	TEST PROTOCOL	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR1: Natural gas fired	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.15	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR2: Natural gas fired	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.03	LB/H	HOURLY	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	HEATER	NATURAL GAS	1.7	MMBTU/H	FUEL GAS HEATER		0.007	LB/MMBTU		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.0075	LB/MMBTU	3-HOUR AVERAGE BASIS	0			0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Low sulfur fuel.	0.0076	lb/MMBtu	1-hr average						
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	DEW POINT HEATER	Natural Gas	15	MMBTU/H	Source shall only be fired on pipeline quality natural gas. Source shall not be operated in excess of 8,275 hours in any 12 consecutive month period.		0.008	LB/MMBTU		0.46	T/YR	IN ANY 12 CONSECUTIVE MONTH PERIOD	0		

Table D-C-5
Particulate Matter less than 10 microns (PM_{10}) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Boilers and Heaters (natural gas and diesel fired)	Natural Gas and Diesel	29.29	MMBtu/hr	Two (2) natural gas and diesel fired 29.29 MMBtu/hr process heaters, one (1) natural gas and diesel fired 20.66 MMBtu/hr boiler, one (1) natural gas and diesel fired 16 MMBtu/hr heater, one (1) natural gas fired 2 MMBtu/hr SO2 burner, one (1) diesel fired 2 MMBtu/hr SO2 burner, one hundred and 38 (138) natural gas fired building heaters, seven (7) natural gas fired 2.5 MMBtu/hr air handler heaters, and twenty (20) diesel fired portable heaters.	Clean Fuel and Good Combustion Practices	0.0254	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0075	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Two (2) Heaters (natural gas and diesel fired)	Natural Gas	16.5	MMBtu/hr	Two (2) 16.5 MMBtu/hr heaters (natural gas and diesel fired).	Clean Fuel and Good Combustion Practices	0.0254	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0075	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	STARTUP HEATER EU-002	NATURAL GAS	70	MMBTU/HR		GOOD COMBUSTION PRACTICES	0.522	LB/H	3HOUR AVERAGE	200	H/YR		0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Gasifier Start-up Preheat Burners	Natural gas	23	MM BTU/hr (each)		good engineering practices, good combustion technology, and use of clean fuels	0			0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	WSA Preheat Burners	Natural Gas	0			good engineering design and practices and use of clean fuels	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Regenerative Heaters	natural gas	7.37	mm btu/hr		good combustion practices	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	EUTOH (In FGTOH)--Thermal Oil Heater	Natural gas	34	MMBTU/H	One natural gas fired thermal oil heater for press and sifter rated at 34 MMBTU/H fuel heat input (EUTOH in FGTOH). All falls under RBLC Process Type Code 30.590.	Good combustion practices.	0.0005	LB/MMBTU	TEST PROTOCOL WILL SPECIFY AVG TIME	0.08	T/YR	12-MO ROLLING TIME PERIOD	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 & EUFUELHTR2)	Natural gas	27	MMBTU/H	Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in flexible group FGFUELHTR). The total combined heat input during operation shall not exceed 27 MMBTU/H (each) as well. The CO2e limit is for both units combined; however the other limits are per unit.	Good combustion practices.	0.2	LB/H	HOURLY; EACH FUEL HEATER	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR1: Natural gas fired fuel heater	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.15	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR2: Natural gas fired fuel heater	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.03	LB/H	HOURLY	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	dew point heater	natural gas	13.32	mmBtu/hr		low sulfur fuel	0.008	LB/MMBTU	3-HOUR AVERAGE	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	HEATER	NATURAL GAS	1.7	MMBTU/H	FUEL GAS HEATER		0.007	LB/MMBTU		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.0075	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	FUEL GAS HEATER (H2O BATH)		18.8	MMBTU/H			0.1	LB/H		0			0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Low sulfur fuel.	0.0076	lb/MMBtu	1-hr average						

Table D-C-6
Particulate Matter less than 2.5 microns ($PM_{2.5}$) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Boilers and Heaters (natural gas and	Natural Gas and Diesel	29.29	MMBtu/hr	Two (2) natural gas and diesel fired 29.29 MMBtu/hr process heaters, one (1) natural gas and diesel fired	Clean Fuel and Good Combustion Practices	0.0254	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0075	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Two (2) Heaters (natural gas and	Natural Gas	16.5	MMBtu/hr	Two (2) 16.5 MMBtu/hr heaters (natural gas and diesel fired).	Clean Fuel and Good Combustion Practices	0.0254	LB/MMBTU (ULSD)	3-HOUR AVERAGE	0.0075	LB/MMBTU (NAT. GAS)	3-HOUR AVERAGE	0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	STARTUP HEATER EU-002	NATURAL GAS	70	MMBTU/HR		GOOD COMBUSTION PRACTICES	0.522	LB/H	3 HOUR AVERAGE	200	H/YR		0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Gasifier Start-up Preheat Burners	Natural gas	23	MM BTU/hr (each)		good engineering practices, good combustion technology, and use of clean	0			0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	WSA Preheat Burners	Natural Gas	0			good engineering design and practices and use of clean fuels	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	3/21/2016	Regenerative Heaters	natural gas	7.37	mm btu/hr		good combustion practices	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	EUTOH (In FGTOH)--Thermal	Natural gas	34	MMBTU/H	One natural gas fired thermal oil heater for press and sifter rated at 34 MMBTU/H fuel heat input (EUTOH	Good combustion practices.	0.0004	LB/MMBTU	TEST PROTOCOL WILL SPECIFY	0.06	T/YR	BASED UPON A 12-MO ROLLING	0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGFUELHTR (Two fuel pre-heaters	Natural gas	27	MMBTU/H	Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in	Good combustion practices.	0.2	LB/H	HOURLY; EACH FUEL HEATER	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR1: Natural gas fired	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.15	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR2: Natural gas fired	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.03	LB/H	HOURLY	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	dew point heater	natural gas	13.32	mmBtu/hr			0.008	LB/MMBTU	3-HOUR AVERAGE	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	HEATER	NATURAL GAS	1.7	MMBTU/H	FUEL GAS HEATER		0.007	LB/MMBTU		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS AND GOOD COMBUSTION PRACTICES	0.0075	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
*TX-0691	PH ROBINSON ELECTRIC GENERATING STATION	5/20/2014	fuel gas heater	natural gas	18	MMBtu/hr			0			0			0		
*TX-0694	INDECK WHARTON ENERGY CENTER	2/2/2015	heater	natural gas	3	MMBtu/hr			0			0			0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Low sulfur fuel.	0.0076	lb/MMBtu	1-hr average						

Table D-C-7
Sulfur Dioxide (SO_2) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Two natural gas heaters	Natural gas	10	MMBtu/hr	Fueled only with gas. May operate one heater at a time.	Use of low-sulfur fuel	2	GR. S/100 SCF GAS		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	Two natural gas heaters	Natural gas	9.9	MMBtu/hr		Clean fuel	2	GRAINS S / 100 SCF		0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Gasifier Start-up Preheat Burners	Natural gas	23	MM BTU/hr (each)		good engineering practices, good combustion technology, and use of clean	0			0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	WSA Preheat Burners	Natural Gas	0			good engineering design and practices and use of clean fuels	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	FGFUELHTR (Two fuel pre-heaters identified as	Natural gas	27	MMBTU/H	Two natural gas fired dew point heaters for warming the natural gas fuel	Good combustion practices and the use of pipeline quality natural gas.	2000	GR/MMSCF	BASED UPON FUEL RECEIPT	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	HEATER	NATURAL GAS	1.7	MMBTU/H	FUEL GAS HEATER		0		SEE NOTE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		USE OF EFFICIENT DESIGN OF THE HEATER, EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS ONLY, AND APPLICATION OF GOOD COMBUSTION PRACTICES	0.0006	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	FUEL GAS HEATER (H2O BATH)		18.8	MMBTU/H		LOW SULFUR FUEL	0.01	LB/H		0			0		
*PA-0288	SUNBURY GENERATION LP/SUNBURY SES	4/1/2013	DEW POINT HEATER	Natural Gas	15	MMBTU/H	Source shall only be fired on pipeline quality natural gas. Source shall not be operated in excess of 8,275 hours in any 12 consecutive month period.		0.003	LB/MMBTU		0.17	T/YR	IN ANY 12 CONSECUTIVE MONTH PERIOD	0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Low sulfur fuel.	0.0022	lb/MMBtu	1-hr average						

Table D-C-8
Sulfuric Acid Mist (H_2SO_4) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR1: Natural gas fired fuel heater	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.34	GR S/100 SCF	FUEL SUPPLIER RECORDS	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFUELHTR2: Natural gas fired fuel heater	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.	Low sulfur fuel	0.34	GR S/100 SCF	FUEL SUPPLIER RECORDS	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	AUXILIARY BOILER (1) AND FUEL GAS HEATERS (6)	NATURAL GAS	185	MMBTU/HR	The auxiliary boiler will provide steam to the steam turbine at startup and at cold starts to warm up the ST rotor. The steam from the auxiliary boiler will not be used to augment the power generation of the combustion turbines or steam turbine. The boiler is proposed to operate 8760 hrs/yr but will be limited by an annual fuel throughput based on a capacity factor of 10%.	Pipeline quality natural gas	0.0001	LB/MMBTU		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	DEW POINT HEATER	NATURAL GAS	5	MMBTU/H		USE OF EFFICIENT DESIGN OF THE HEATER, EXCLUSIVE USE OF PIPELINE QUALITY NATURAL GAS ONLY, AND APPLICATION OF GOOD COMBUSTION PRACTICES	0.0005	LB/MMBTU	3-HOUR BLOCK AVERAGE	0			0		
	CPV Valley Energy Center Wawayanda, NY		Fuel Gas Heater	Natural Gas	5.02	MMBtu/hr		Low sulfur fuel.	0.0002	lb/MMBtu	1-hr average						

Table D-C-9
Greenhouse Gas (GHG) RBLC Search - Dew Point Heater
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	06/30/2017 ACT	Boilers and Heaters (natural gas and diesel fired)	Natural Gas and Diesel	29.29	MMBtu/hr	Two (2) natural gas and diesel fired 29.29 MMBtu/hr process heaters, one (1) natural gas and diesel fired 20.66 MMBtu/hr boiler, one (1) natural gas and diesel fired 16 MMBtu/hr heater, one (1) natural gas fired 2 MMBtu/hr SO2 burner, one (1) diesel fired 2 MMBtu/hr SO2 burner, one hundred and 38 (138) natural gas fired building heaters, seven (7) natural gas fired 2.5 MMBtu/hr air handler heaters, and twenty (20) diesel fired portable heaters.	Good Combustion Practices	176347	TPY	YEARLY	0			0		
*AK-0084	DONLIN GOLD PROJECT	06/30/2017 ACT	Two (2) Heaters (natural gas and diesel fired)	Natural Gas	16.5	MMBtu/hr	Two (2) 16.5 MMBtu/hr heaters (natural gas and diesel fired).	Good Combustion Practices	176347	TPY	YEARLY	0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017 ACT	STARTUP HEATER EU-002	NATURAL GAS	70	MMBTU/HR		GOOD COMBUSTION PRACTICES AND THE USE OF INLET AIR CONTROL SENSORS THAT LIMIT EXCESS AIR	8184	LB/H	3 HOUR AVERAGE	200	H/YR		0		
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016 ACT	Gasifier Start-up Preheat Burners	Natural gas	23	MM BTU/hr (each)		good equipment design and good combustion practices	0			0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	06/30/2016 ACT	WSA Preheat Burners	Natural Gas	0			good equipment design and good combustion practices	0			0			0		
LA-0307	MAGNOLIA LNG FACILITY	03/21/2016 ACT	Regenerative Heaters	natural gas	7.37	mm btu/hr		good combustion/operating/maintenance practices and fueled by natural gas	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	08/26/2016 ACT	EUTOH (In FGTOH)--Thermal Oil Heater	Natural gas	34	MMBTU/H	One natural gas fired thermal oil heater for press and sifter rated at 34 MMBTU/H fuel heat input (EUTOH in FGTOH). All falls under RBLC Process Type Code 30.590.	Good combustion and maintenance practices, natural gas only.	17438	T/YR	BASED UPON A 12-MO ROLLING TIME PERIOD	0			0		
MI-0423	INDECK NILES, LLC	01/04/2017 ACT	FGFUELHTR (Two fuel pre-heaters identified as EUFUELHTR1 & EUFUELHTR2)	Natural gas	27	MMBTU/H	Two natural gas fired dew point heaters for warming the natural gas fuel (EUFUELHTR1 & EUFUELHTR2 in flexible group FGFUELHTR). The total combined heat input during operation shall not exceed 27 MMBTU/H (each) as well. The CO2e limit is for both units combined; however the other limits are per unit.	Energy efficiency measures and the use of a low carbon fuel (pipeline quality natural gas).	13848	T/YR	12-MO ROLLING TIME PERIOD; COMBINED LIMI	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018 ACT	EUFUELHTR1: Natural gas fired fuel heater	Natural gas	20.8	MMBTU/H	A natural gas-fired 20.8 MMBTU/H heat input HP fuel heater.	Natural gas fuel	6310	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	07/16/2018 ACT	EUFUELHTR2: Natural gas fired fuel heater	Natural gas	3.8	MMBTU/H	A natural gas-fired 3.8 MMBTU/H heat input HP fuel heater.	Natural gas fuel	6310	T/YR	12-MONTH ROLLING TIME PERIOD	0			0		
*VA-0325	GREENSVILLE POWER STATION	06/17/2016 ACT	AUXILIARY BOILER (1) AND FUEL GAS HEATERS (6)	NATURAL GAS	185	MMBTU/HR	The auxiliary boiler will provide steam to the steam turbine at startup and at cold starts to warm up the ST rotor. The steam from the auxiliary boiler will not be used to augment the power generation of the combustion turbines or steam turbine. The boiler is proposed to operate 8760 hrs/yr but will be limited by an annual fuel throughput based on a capacity factor of 10%.	Natural gas and fuel and high efficiency design and operation.	117.1	LB/MMBTU		0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	dew point heater	natural gas	13.32	mmBtu/hr			6860	T/YR	12-MONTH ROLLING TOTAL	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	dew point heater	natural gas	13.32	mmBtu/hr			6860	T/YR	12-MONTH ROLLING TOTAL	0			0		
*TX-0758	ECTOR COUNTY ENERGY CENTER	8/1/2014	Dew-Point Heater	Natural Gas	9	MMBtu/hr			2631	T/YR	12-MONTH ROLLING TOTAL	0			0		

Table D-D-1
Nitrogen Oxides (NO_x) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Black Start and Emergency Internal Cumbustion Engines	Diesel	1500	kWe	Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.	Good Combustion Practices	8	G/KW-HR	3-HOUR AVERAGE	0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	DISTILLATE OIL	3600	HP EACH		GOOD COMBUSTION PRACTICES	4.42	G/HP-H EACH	3 HOUR AVERAGE	500	H/YR EACH		0		
LA-0292	HOLBROOK COMPRESSOR STATION	1/22/2016	Emergency Generators No. 1 & No. 2	Diesel	1341	HP		Good equipment design, proper combustion techniques, use of low sulfur fuel, and compliance with 40 CFR 60 Subpart IIII	14.16	LB/HR	HOURLY MAXIMUM	0.71	TPY	ANNUAL MAXIMUM	4.8	G/BHP-HR	
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Diesel Engines (Emergency)	Diesel	4023	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	Diesel	1474	horsepower	Operating hours limit: 100 hr/yr.	Compliance with NSPS Subpart IIII	19.23	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Generator 1	Diesel	2584	HP		Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	27.34	LB/H	HOURLY MAXIMUM	6.84	T/YR	ANNUAL MAXIMUM	4.8	G/BHP-HR	
LA-0316	CAMERON LNG FACILITY	2/17/2017	emergency generator engines (6 units)	diesel	3353	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Emergency Generator Engines (4 units)	Diesel	0		I-GDE-1201, II-GDE-1201 = 2346 hp I-GDE-1202 = 755 hp I-GDE-1203 = 1193 hp	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1600 kW (EUEMRGRICE in FGRICE).	Certified engines, limited operating hours.	22.6	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMENGINE (Diesel fuel emergency engine)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS IIII requirements.	6.4	G/KW-H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	3	G/BHP-H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).	Certified engines, limited operating hours.	21.2	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).	Certified engines, limited operating hours	4.4	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (North Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	6.4	G/KW-H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS IIII requirements.	6.4	G/KW-H	HOURLY	0			0		
*MI-0434	FLAT ROCK ASSEMBLY PLANT	3/22/2018	EULIFESAFETYENG - One diesel-fueled emergency engine/generator	Diesel	500	KW	EULIFESAFETYENG - One (1) diesel-fueled emergency engine/generator rated at 500 KW. No add-on control.	Good combustion practices.	4	G/KW-H	HOURLY; NMHC+NOX	8.47	LB/H	HOURLY; NOX	0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUEMENGINE: Emergency engine	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	State of the art combustion design.	6.4	G/KW-H	HOURLY	0			0		
WV-0027	INWOOD	9/15/2017	Emergency Generator - ESDG14	ULSD	900	bhp	Used to supply power to the facility in the event of power loss	Engine Design	4.77	G/HP-HR		0			0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	Caterpillar 3215C Black Start Generator (1)	ULSD	1500	KW-e		Turbocharger and Aftercooler	6.4	G/KW-H	INSTANTANEOUS	0			0		

Table D-D-1
Nitrogen Oxides (NO_x) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Diesel	1500	kW-e	EU 13 Black Start Engine	Black Start diesel fired engine EU 13 shall be equipped with turbo charging and after cooling. The turbo charger reduces NOx emissions by boosting the pressure and temperature of the air entering the engine allowing more fuel to be added to increase power output. This translates into higher combustion efficiency and reduced emissions.	6.4	G/KW-H		0			0		
AK-0076	POINT THOMSON PRODUCTION FACILITY	8/20/2012	Combustion of Diesel by ICEs	ULSD	1750	kW	Diesel-fired generators		6.4	G/KW-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Emergency Camp Generators	Ultra Low Sulfur Diesel	2695	hp	Three 2,695 hp ULSD-fired Standby Camp Generator Engines.		4.8	G/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Airstrip Generator Engine	Ultra Low Sulfur Diesel	490	hp	One 490 hp Airstrip Generator Engine		4.8	G/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Bulk Tank Generator Engines	Ultra Low Sulfur Diesel	891	hp	Two ULSD-fired 891 hp Bulk Tank Storage Area Generator Engines		4.8	G/HP-H		0			0		
AL-0251	HILLABEE ENERGY CENTER	9/24/2008	EMERGENCY GENERATOR	DIESEL	600	EKW		GOOD COMBUSTION PRACTICES	0			0			0		
*AL-0301	NUCOR STEEL TUSCALOOSA, INC.	7/22/2014	DIESEL FIRED EMERGENCY GENERATOR	DIESEL	800	HP			0.015	LB/HP-H		0			0		
AZ-0046	ARIZONA CLEAN FUELS YUMA	4/14/2005	EMERGENCY GENERATOR	NO. 2 DIESEL FUEL	10.9	MMBTU/H	EQUIPMENT IDENTIFIED BY ID # S-29100		6.4	G/KW-H		0			0		NOT AVAILABLE
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY ENGINE	DIESEL	2000	KW	2000 KW (2,683 hp) engine	OPERATIONAL RESTRICTION OF 50 HR/YR	6	G/KW-H		4.5	G/HP-H		0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	EMERGENCY IC ENGINE	DIESEL	2683	HP	UNIT IS 2000 KW.		6.4	G/KW-H	3-HR AVG	4.8	G/HP-H	3-HR AVG	0		
CA-1213	MOUNTAINVIEW POWER COMPANY LLC	4/21/2006	EMERGENCY FIRE IC ENGINE	DIESEL	375	BHP			0			0			0		
CA-1213	MOUNTAINVIEW POWER COMPANY LLC	4/21/2006	EMERGENCY POWER IC ENGINE	DIESEL	2155	BHP			0			0			0		
*CA-1220	SAN DIEGO INTERNATIONAL AIRPORT	10/3/2011	ICE:Emergency-Compression Ignition	diesel	1881	BHP	Mitsubishi S12R-Y2PTAW-1	Tier 2 certified and 50 hr/y M&T limit	3.9	G/HP-H		0			0		
*CA-1221	PACIFIC BELL	12/5/2011	ICE:Emergency-Compression Ignition	diesel	3634	bhp		Tier 2 certified and 50 hr/yr for M&T limit	3.5	G/HP-H		0			0		
FL-0310	SHADY HILLS GENERATING STATION	1/12/2009	2.5 MW EMERGENCY GENERATOR	ULTRA LOW S OIL	2.5	MW	MAXIMUM HOURS OF OPERATION: 500 HRS/YR	PURCHASE MODEL IS AT LEAST AS STRINGENT AS THE BACT VALUES, UNDER EPA CERTIFICATION.	6.9	G/HP-H	3 ONE HOUR TEST	0			0		
FL-0322	SWEET SORGHUM-TO-ETHANOL ADVANCED BIOREFINERY	12/23/2010	Emergency Generators, Two 2682 HP EA	ULSD	0		Two emergency generators, each rated at 2,000 kW, will be installed to provide backup electrical power in the event of a power outage at the SRF facility. The engines will fire ULSD fuel oil or propane and each will be limited to 500 hours per year of operation during emergencies. Each unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. Each engine will be designed to meet USEPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.		6.4	G/KW-H		0			0		
FL-0327	ANADARKO - PHEONIX PROSPECT	6/13/2011	Emergency Engine	Diesel	0		WÃ¤rtsilÃ¤ 6R32LNE	Limited use of 24 hours/week and recordkeeping of operation.	9.4	T/YR		0			0		
*FL-0328	ENI - HOLY CROSS DRILLING PROJECT	10/27/2011	Emergency Engine	Diesel	580	HP	MAN D-2842 LE model engine	Use of good combustion practices, based on the current manufacturerâ€™s specifications for this engine	0.4	T/YR	12-MONTH ROLLING	12.51	G/HP-H		0		
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	2000 KW Emergency Equipment		0		One emergency generator rated at 2,000 kW (2,682 HP) will be installed to provide backup electrical power in the event of a power outage at the HEF facility. The generator will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation during emergencies. The unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.	See Pollutant Notes.	6.4	G/KW-H		0			0		
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	600 HP Emergency Equipment	Ultra-Low Sulfur Oil	0		One 600 hp diesel fire pump engine will be installed to provide firewater during power outages. This unit will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation. This unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2009 or later.	See Pollutant Notes.	3	G/HP-H		0			0		

Table D-D-1
Nitrogen Oxides (NO_x) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - Development Driller 1	Diesel	2229	hp		Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	1.6	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - C.R. Luigs	diesel	2064	hp	Caterpillar D3516A 1998	Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	1.49	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Main Propulsion Generator Diesel Engines	Diesel	9910	hp	Four 1998 Wartsila 18V32LNE 9910 hp and Two 1998 Wartsila 12V32LNE 6610 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	12.7	G/KW-H	ROLLING 24 HOUR AVERAGE	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Emergency Diesel Engine	Diesel	3300	hp	1998 Wartsila 6R32LNE	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0			0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	EMERGENCY GENERATOR	DIESEL	1500	KW	THREE 1,500 KW EMERGENCY GENERATORS ARE BEING INSTALLED AS A PART OF THIS PROJECT. PERMITS 07-A-542-P, 07-A-576-P AND 07-A-577-P. THE PROJECT ALSO INCLUDES THE INSTALLATION OF ONE 2,00 KW EMERGENCY GENERATOR. PERMIT 07-A-578-P. ALL FOUR EMERGENCY GENERATORS HAVE THE SAME SHORT TERM BACT LIMITS AND DIFFERENT TON/YR BACT LIMITS.	NO SPECIFIC CONTROL TECHNOLOGY IS SPECIFED. ENGINE IS REQUIRED TO MEET LIMITS ESTABLISHED AS BACT (TIER 2 NONROAD). THIS COULD REQUIRE ANY NUMBER OF CONTROL TECHNOLOGIES AND OPERATIONAL REQ. TO MEET THE BACT STANDARD.	4.5	G/HP-H	AVERAGE OF 3 TEST RUNS	5.29	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	EMERGENCY GENERATOR	DIESEL	700	KW			6.2	G/KW-H	AVERAGE OF THREE STACK TEST RUNS	2.39	T/YR	12-MONTH ROLLING AVERAGE	0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	6	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	6.61	TONS/YR	ROLLING 12 MONTH TOTAL	0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	2 MW EMERGENCY GENERATOR, SRC25	ASTM #1, 2, DIESEL	2000	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	GOOD COMBUSTION PRACTICES. EPA CERTIFIED PER NSPS IIII	0			0			0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	500 KW EMERGENCY GENERATOR, FIRE PUMP, SRC26	ASTM #1, 2, DIESEL	500	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	GOOD COMBUSTION PRACTICES. EPA CERTIFICATION PER NSPS IIII.	0		SEE NOTE	0			0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	EMERGENCY GENERATOR ENGINE	DIESEL	750	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 2 ENGINE-BASED, GOOD COMBUSTION PRACTICES (GCP)	6.4	G/KW-H	NOX+NMHC	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Emergency Generator	distillate fuel oil	3755	HP		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.67	G/KW-H		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	4.8	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEALRY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	4.8	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	TWO (2) EMERGENCY GENERATORS	DIESEL	1341	HORSEPOWER, EACH	IDENTIFIED AS EU-009A AND EU-009B	GOOD COMBUSTION PRACTICES AND LIMITED HOURS OF NON-EMERGENCY OPERATION	0			0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	4.46	G/HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY GENERATOR	NO. 2 FUEL OIL	4690	B-HP	ANNUAL HOURS OF OPERATION NOT TO EXCEED 200 HOURS.	GOOD COMBUSTION PRACTICES	4.46	G/HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	4.46	G/HP-H	3-HR AVERAGE	0			0		
KS-0028	NEARMAN CREEK POWER STATION	10/18/2005	EMERGENCY BLACK START GENERATOR	NO. 2 FUEL OIL	24.1	MMBTU/H	THE CUMMINS POWER GENERATION DIESEL GENERATOR (MODEL NO.: QSK78-G6) SHALL ONLY COMBUST NO. 2 FUEL OIL WITH VERY LOW SULFUR CONTENT AS THE PRIMARY FUEL TYPE. THERE WILL BE NO SECONDARY FUEL FOR BACKUP. [NOTE: THE INCREASE IN SIZE OF THE EMERGENCY BLACK START GENERATOR CAUSED THE SIGNIFICANT MODIFICATION. IN THE ORIGINAL PERMIT, OCTOBER 21, 2004, THE EMERGENCY BLACK START GENERATOR WAS A CATERPILLAR DIESEL GENERATOR (MODEL NO.: 3508 DITA) 900 KW. IT WAS CHANGED TO A CUMMINS POWER GENERATION DIESEL GENERATOR (MODEL NO.: QSK78-G6) 2.8 MW.]	EMERGENCY DIESEL GENERATORS HAVE NOT BEEN REQUIRED TO INSTALL ADDITIONAL NOX CONTROLS BECAUSE OF INTERMITTENT OPERATION.	84.8	LB/H	FULL LOAD OPERATIONS	0			0		NOT AVAILABLE

Table D-D-1
Nitrogen Oxides (NO_x) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0211	GARYVILLE REFINERY	12/27/2006	EMERGENCY GENERATORS (DOCK & TANK FARM) (21-08 & 22-08)	DIESEL	1341	HP	21-08: 1341 HP 22-08: 671 HP GENERATORS PERMITTED FOR 182 H/YR EA.	USE OF DIESEL WITH A SULFUR CONTENT OF 15 PPMV OR LESS	0.031	LB/HP-H	ANNUAL AVERAGE	0			0		
LA-0219	CREOLE TRAIL LNG IMPORT TERMINAL	8/15/2007	DIESEL EMERGENCY GENERATOR NOS. 1 & 2	DIESEL	2168	HP EACH		GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN INCORPORATING FUEL INJECTION TIMING RETARDATION (ITR)	37.95	LB/H	HOURLY MAXIMUM	9.49	T/YR	ANNUAL MAXIMUM	0		
LA-0231	LAKE CHARLES GASIFICATION FACILITY	6/22/2009	EMERGENCY DIESEL POWER GENERATOR ENGINES (2)	DIESEL	1341	HP EACH		COMPLY WITH 40 CFR 60 SUBPART IIII	17.09	LB/H	MAXIMUM (EACH)	5.78	G/HP-H		0		
LA-0251	FLOPAM INC. FACILITY	4/26/2011	Large Generator Engines (17 units)	Diesel	0		11 units: 591 hp 6 units: 1175 hp		6.32	LB/H	(591 HP UNITS)	10.36	LB/H	(1175 HP UNITS)	6.4	G/KW-H	(NOX + NMHC)
*LA-0272	AMMONIA PRODUCTION FACILITY	3/27/2013	EMERGENCY DIESEL GENERATOR (2205-B)	DIESEL	1200	HP	OPERATING TIME OF GENERATOR IS LIMITED TO 500 HR/YR.	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0			0			6.4	G/KW-HR	NOX + NMHC
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Emergency Engine/Generator	ULSD	7.4	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		4.8	G/HP-H	1 HR BLOCK AVG	11.6	LB/H	1 HR BLOCK AVG	0		
MD-0037	MEDIMMUNE FREDERICK CAMPUS	1/28/2008	THREE (3) DIESEL (NO. 2 FUEL OIL) FIRED, EMERGENCY GENERATORS EACH RATED AT 2500 KILOWATTS (3604 BRAKE HORSEPOWER)	DIESEL (NO. 2 FUEL OIL)	2500	KW			6.06	G/HP-H		0			6.06	G/HP-H	
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY GENERATOR 1	ULTRA LOW SULFU DIESEL	2250	KW	40 CFR 60 SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	LIMITED OPERATING HOURS, USE OF ULTRA- LOW SULFUR FUEL AND GOOD COMBUSTION PRACTICES	4.8	G/HP-H		6.4	G/KW-H		0		
*MD-0043	PERRYMAN GENERATING STATION	7/1/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1300	HP	40 CFR 60 SUBPART IIII, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND EXCLUSIVE USE OF ULSD	4.8	G/HP-H		6.4	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1550	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMIT	4.8	G/HP-H	COMBINED NOX + NMHC	6.4	G/KW-H	COMBINED NOX + NMHC	0		
MI-0394	WARREN TECHNICAL CENTER	2/29/2012	Four (4) Emergency Generators	Diesel	2280	KW	Each generator is 2280 kW (3058 hp each). Standard generator sets.	No add-on controls, but ignition timing retardation (ITR) is good design. Engines are tuned for low-NOx operation versus low CO operation.	6.93	G/KW-H	EACH GENERATOR ENGINE	0			0		
MI-0394	WARREN TECHNICAL CENTER	2/29/2012	Nine (9) DRUPS Emergency Generators	Diesel	3010	KW	Each emergency generator is 3010 kW each (4035 hp each). DRUPS stands for Diesel Rotary Uninterruptable Power supply system. The system provides for zero down-time in electrical energy supply at the onset of a power outage. The system stores energy in a fly-wheel that powers the generator until the diesel engine starts up.	No add-on controls, but ignition timing retardation (ITR) is good design. Engines are tuned for low-NOx operation versus low CO operation.	5.98	G/KW-H	EACH GENERATOR ENGINE	0			0		
MI-0395	WARREN TECHNICAL CENTER	7/13/2012	Nine (9) DRUPS Emergency Generators	Diesel	3010	KW	Each generator is 3010 KW each (4035 hp each). DRUPS stands for Diesel Rotary Uninterruptable Power supply system. The system provides for zero down-time in electrical energy supply at the onset of a power outage. The system stores energy in a fly-wheel that powers the generator until the diesel engine starts up.	No add-on controls, but ignition timing retardation (ITR) is good design. Engines are tuned for low-NOx operation versus low CO operation.	5.98	G/KW-H	EACH GENERATOR ENGINE	0			0		
MI-0395	WARREN TECHNICAL CENTER	7/13/2012	Four (4) Emergency Generators	Diesel	2500	KW	Each generator is 2500 KW (3634 hp each). Standard generator sets.	No add-on control, but ignition timing retardation (ITR) is good design. Engines are tuned for low-NOx operation versus low CO operation.	7.13	G/KW-H	EACH GENERATOR ENGINE	0			0		
*MI-0400	WOLVERINE POWER	6/29/2011	Turbine generator (EUBLACKSTART)	Diesel	540	MMBTU/H	This is a turbine generator identified in the permit as EUBLACKSTART. It has a throughput capacity of 540MMBTU/HR which equates to 102 MW. The maximum operation was based on 500 hours per year.		0.16	LB/MMBTU	TEST PROTOCOL	0			0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	EMERGENCY GENERATOR	NO. 2	1750	KW	THIS IS A 1750 KW GENERATOR THAT WAS INSTALLED IN PLACE OF THE 670 HP GENERATOR (LISTED AS A ‘‘IC ENGINE, LARGE, FUEL OIL) IN MN-0053		0.024	LB/HP-H	3 HOUR AVERAGE	0			0		
NH-0015	CONCORD STEAM CORPORATION	2/27/2009	EMRGENCY GENERATOR 1	DIESEL FUEL	5.6	MMBTU/H	OPERATES LESS THAN 500 HOURS PER CONSECUTIVE 12 MONTH PERIOD	LESS THAN 500 HOURS OF OPERATION PER CONSECUTIVE 12 MONTH PERIOD	1.98	LB/MMBTU	AVERAGE OF 3 1-HOUR TEST RUNS	0			0		
NH-0015	CONCORD STEAM CORPORATION	2/27/2009	EMERGENCY GENERATOR 2	DIESEL FUEL	11.6	MMBTU/H	OPERATES LESS THAN 500 HOURS PER CONSECUTIVE 12 MONTH PERIOD AND PRIMARY USE IS TO START UP BOILER 1 AFTER A POWER OUTAGE.	OPERATES LESS THAN 500 HOURS PER CONSECUTIVE 12 MONTH PERIOD.	1.98	LB/MMBTU	AVERAGE OF 3 1-HOUR TEST RUNS	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Emergency Generator	Ultra Low Sulfur distillate Diesel	100	H/YR	The Emergency Generator will use Ultra Low Sulfur distillate (ULSD) Diesel with 15 ppm % Sulfur by weight only	Use of ULSD diesel oil	21.16	LB/H		0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Emergency Generator	ULSD	200	H/YR		use of ultra low sulfur diesel (ULSD) a clean fuel	18.53	LB/H		0			0		

Table D-D-1
Nitrogen Oxides (NO_x) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	SMALL INTERNAL COMBUSTION ENGINE (<600 HP) - UNIT FL12	DIESEL OIL	536	HP	UNIT FL12 IS A DETROIT DIESEL GENERATOR AT FLAMINGO LAS VEGAS. LIKE ALL THE OTHER DIESEL GENERATORS, THE UNIT IS SUBJECT TO THE LIMIT OF MONTHLY AND ANNUAL OPERATING TIMES FOR 2 HOURS PER MONTH AND 36 HOURS PER YEAR RESPECTIVELY. EMISSION FACTORS LISTED IN AP-42 ARE USED TO CALCULATE THE EMISSION LIMITS FOR EACH AND EVERY DIESEL GENERATOR IN THIS MAJOR STATIONARY SOURCE, AND ARE NOT REPEATED FURTHER FOR REPORTING THE BACT DETERMINATIONS.	THE UNIT IS EQUIPPED WITH A TURBOCHARGER.	0.031	LB/HP-H		16.62	LB/H		0.031	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	DIESEL EMERGENCY GENERATORS - UNITS CC009 THRU CC015 AT CITY CENTER	DIESEL OIL	3622	HP	THE SEVEN UNITS ARE IDENTICAL CATERPILLAR DIESEL EMERGENCY GENERATORS, EACH OF WHICH IS RATED AT 3,622 HORSEPOWER (HP). OPERATION OF EACH OF THE UNITS IS LIMITED TO ONE HOUR/DAY AND TWELVE HOURS/YEAR FOR TESTING AND MAINTENANCE PRUPOSES ONLY. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	TURBOCHARGER AAND AFTER-COOLER	0.01	LB/HP-H		37.4	LB/H		0.01	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	EMERGENCY GENERATORS - UNITS LX024 AND LX025 AT LUXOR	DIESEL OIL	2206	HP	THE TWO UNITS ARE IDENTICAL CATERPILLAR GENERATORS MODEL 3512C. EACH UNIT HAS A FOUR-STROKE COMPRESSION-IGNITION ENGINE RATED AT 2,206 HORSE POWER (HP). THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #10 DATED SEPTEMBER 20, 2006. EACH UNIT IS ALLOWED TO OPERATE UP TO ONE HOUR PER DAY AND FIFTY TWO HOURS PER YEAR.	TURBOCHARGING, AFTER-COOLING, AND LEAN-BURN TECHNOLOGY	0.0131	LB/HP-H		28.98	LB/H		0.0131	LB/HP-H	
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	EMERGENCY GENERATOR	DIESEL FUEL OIL	2922	HP	2922 MAXIMUM HORSE POWER SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES, GOOD ENGINE DESIGN, IGNITION TIMING RETARD, TURBOCHARGER, AND LOW-TEMPERATURE AFTERCOOLER	26.47	LB/H		6.61	T/YR	PER ROLLING 12-MONTH PERIOD	6.4	G/KW-H	FOR NMHC AND NOX COMBINED 95% NOX
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency generator	diesel	2250	KW	Emergency diesel fired generator restricted to 500 hours of operation per rolling 12-months.	Purchased certified to the standards in NSPS Subpart IIII	27.8	LB/H		6.95	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
OK-0118	HUGO GENERATING STA	2/9/2007	EMERGENCY DIESEL INTERNAL COMBUSTION ENGINES					USE OF LOW SULFUR NO.2 FUEL OIL COMBINED WITH GOOD COMBUSTION PRACTICES AND LIMITED ANNUAL OPERATION	0		SEE NOTE	0			0		
OK-0128	MID AMERICAN STEEL ROLLING MILL	9/8/2008	Emergency Generator	No. 2 diesel	1200	HP		500 hours per year operations	15.6	LB/H		3.9	T/YR		5.90	G/HP-H	
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY DIESEL GENERATOR (2200 HP)	LOW SULFUR DIESEL	2200	HP			23.15	LB/H		6.4	G/KW-H	NSPS	0		
PA-0271	MERCK & CO. WESTPOINT	2/23/2007	MOBILE EMERGENCY GENERATOR	DIESEL					6.8	G/HP-H		8.3	T/YR		0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Emergency Generator	Diesel	0		The emergency generator will be restricted to operate not more than 100 hr/yr.		4.93	G/HP-H		0			4.93	G/B-HP-H	
*PA-0282	JOHNSON MATTHEY INC/CATALYTIC SYSTEMS DIV	6/1/2012	650-KW BACKUP DIESEL GENERATOR	Diesel / #2 Oil	45.8	GAL/H	The permittee shall ensure that the Backup Diesel Generator shall not be operated more than fifty (50) hours per year as a 12-month rolling sum. The permittee may not, at any time, use commercial fuel oil as fuel for the Backup Diesel Generator which contains sulfur in excess of 0.3% by weight.		6.9	G/HP-H		11.34	LB/H		0		
*PA-0282	JOHNSON MATTHEY INC/CATALYTIC SYSTEMS DIV	6/1/2012	400-KW DIESEL EMERGENCY GENERATOR	#2 Oil	29.2	GAL/H			6.9	G/HP-H		0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY GENERATOR	Ultra Low sulfur Distillate	7.8	MMBTU/H	EMERGENCY GENERATOR (1,135 BHP - 750 KW)		9.89	LB/H		0.49	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0292	ML 35 LLC/PHILA CYBERCENTER	6/1/2012	DIESEL GENERATOR (2.25 MW EACH) - 5 UNITS	#2 Oil	0		Engines are equipped with SCR and CO Oxidation catalyst	SCR	0.67	G/KW-H		0.41	T/YR	12-MONTH ROLLING SUM	0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)		2.85	G/HP-H		4.2	LB/H		0		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	EMERGENCY GENERATORS 1 THRU 8	DIESEL	757	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF EIGHT (8) IDENTICAL EMERGENCY GENERATORS. THIS PROCESS AND POLLUTANT INFORMATION IS FOR ONE SINGLE EMERGENCT GENERATOR.	ENGINES MUST BE CERTIFIED TO COMPLY WITH NSPS, SUBPART IIII.	4	G/KW-H		0			0		
SC-0114	GP ALLENDALE LP	11/25/2008	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES.		11.41	LB/H		2.85	T/YR		0		
SC-0115	GP CLARENDON LP	2/10/2009	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES. THE DIESEL EMERGENCY GENERATOR IS LIMITED TO 500 HOURS OF OPERATION PER YEAR.	TUNE-UPS AND INSPECTIONS WILL BE PERFORMED AS OUTLINED IN THE GOOD MANAGEMENT PRACTICE PLAN.	11.41	LB/H		2.85	T/YR		0		
*SC-0132	ARGOS HARLEYVILLE PLANT	12/14/2007	EMERGENCY GENERATOR	DIESEL	1000	KW			0			0			0		

Table D-D-1
Nitrogen Oxides (NO_x) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*SD-0005	DEER CREEK STATION	6/29/2010	Emergency Generator	Distillate Oil	2000	Kilowatts			0			0			0		
*TX-0671	PROJECT JUMBO	12/1/2014	Engines	ultra low sulfur diesel fuel	0		Two mergency diesel fired generators proposed. Each engine will be 4000 kW. Ultra low sulfur fuel is burned in the engines to meet the sulfur requirement of 15 ppm in 40CFR80.510(b). Each emergency engine is being permitted for maintenance and testing for maximum 100 hrs/yr. They are not being permitted for the actual emergency emissions	Each emergency generator's emission factor is based on EPA's Tier 2 standards at 40CFR89.112 for NOx	5.43	G/KW-H		2.39	TPY		0		
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Emergency Diesel Generator	Diesel	1500	hp	The emergency generator (EPN 17-1-4) at the site is diesel fired and rated at 1500 horsepower (hp). Lowest Achievable Emission Rates (LAER) for nitrogen oxides (NOx) is the use of a 40 Code Federal Rules (CFR) Part 89 Tier 2 engine and limited hours of operation. Emissions from the engine shall not exceed 0.0218 grams per horsepower-hour (g/hp-hr) of nitrogen oxides (NOx). The engine is limited to 52 hours per year of non-emergency operation. Emissions from the engine shall not exceed 0.01256 g/hp hr of carbon monoxide (CO). The fuel for the engine is limited to 15 parts per million sulfur by weight (ultra-low sulfur diesel). The engine is limited to 52 hours per year of non-emergency operation. Also applicable: 40CFR60 IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engine and 40CFR63 ZZZZ, National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines.	Minimized hours of operations Tier II engine	0.0218	G/HP-H		0.35	TPY		0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	EMERGENCY GENERATOR	DIESEL FUEL	1.5	MW		THE ENGINE MUST BE NEW AND MUST SATISFY THE FEDERAL ENGINE STANDARDS OF 40 CFR 89 FOR YEAR OF PURCHASE.	0			0			0		*SEE NOTES
WA-0329	DARRINGTON ENERGY COGENERATION POWER PLANT	2/11/2005	STANDBY GENERATOR	DIESEL FUEL	1	MW		ENGINE MUST BE NEW AND SATISFY FEDERAL STANDARDS @ 40 CFR 89	0		SEE NOTE	0			0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Emergency Generator	Diesel	2015.7	HP	Nominal 1,500 kW. Limited to 100 hours/year.		0			0			4.8	G/HP-HR	NMHC + NOX
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Diesel Emergency Generator (EP15)	Ultra Low Sulfur Diesel	839	hp		EPA Tier 2 rated	0			0			0		

Table D-D-2
Carbon Monoxide (CO) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Black Start and Emergency Internal Cumbustion Engines	Diesel	1500	kWe	Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.	Good Combustion Practices	4.38	G/KW-HR	3-HOUR AVERAGE	0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Diesel Engines (Emergency)	Diesel	4023	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DEGI-13 - Diesel Fired Emergency Generator Engine (EQT0012)	Diesel	1474	horsepower	Operating hours limit: 100 hr/yr.	Compliance with NSPS Subpart IIII	0.51	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Generator 1	Diesel	2584	HP		Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	14.81	LB/H	HOURLY MAXIMUM	3.7	T/YR	ANNUAL MAXIMUM	2.6		
LA-0316	CAMERON LNG FACILITY	2/17/2017	emergency generator engines (6 units)	diesel	3353	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Emergency Generator Engines (4 units)	Diesel	0		I-GDE-1201, II-GDE-1201 = 2346 hp I-GDE-1202 = 755 hp I-GDE-1203 = 1193 hp	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1600 kW (EUEMRGRICE in FGRICE).	Good design and combustion practices.	3.5	G/KW-H	TEST PROTOCOL WILL SPECIFY AVG TIME	12.35	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMENGINE (Diesel fuel emergency engine)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	3.5	G/KW-H	TEST PROTOCOL SHALL SPECIFY AVG TIME	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).	Good design and combustion practices.	3.5	G/KW-H	TEST PROTOCOL SHALL SPECIFY	11.6	LB/H	TEST PROTOCOL SHALL SPECIFY	0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).	Good design and combustion practices.	3.5	G/KW-H	TEST PROTOCOL SHALL SPECIFY	3.9	LB/H	TEST PROTOCOL SHALL SPECIFY	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (North Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	3.5	G/KW-H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS IIII requirements.	3.5	G/KW-H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUEMENGINE: Emergency engine	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	State of the art combustion design.	3.5	G/KW-H	HOURLY	0			0		
AK-0076	POINT THOMSON PRODUCTION FACILITY	8/20/2012	Combustion of Diesel by ICEs	ULSD	1750	kW	Diesel-fired generators		3.5	G/KW-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Emergency Camp Generators	Ultra Low Sulfur Diesel	2695	hp	Three 2,695 hp ULSD-fired Standby Camp Generator Engines.		2.6	G/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Bulk Tank Generator Engines	Ultra Low Sulfur Diesel	891	hp	Two ULSD-fired 891 hp Bulk Tank Storage Area Generator Engines		2.6	G/HP-H		0			0		
AL-0251	HILLABEE ENERGY CENTER	9/24/2008	EMERGENCY GENERATOR	DIESEL	600	EKW		GOOD COMBUSTION PRACTICES	0			0			0		
AZ-0046	ARIZONA CLEAN FUELS YUMA	4/14/2005	EMERGENCY GENERATOR	NO. 2 DIESEL FUEL	10.9	MMBTU/H	EQUIPMENT IDENTIFIED BY ID # S-29100		3.5	G/KW-H		0			0		NOT AVAILABLE
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY ENGINE	DIESEL	2000	KW	2000 KW (2,683 hp) engine	OPERATIONAL RESTRICTION OF 50 HR/YR	3.5	G/KW-H		2.6	G/HP-H		0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	EMERGENCY IC ENGINE	DIESEL	2683	HP	UNIT IS 2000 KW.		3.5	G/KW-H		2.6	G/HP-H		0		
FL-0310	SHADY HILLS GENERATING STATION	1/12/2009	2.5 MW EMERGENCY GENERATOR	ULTRA LOW S OIL	2.5	MW	MAXIMUM HOURS OF OPERATION: 500 HRS/YR	PURCHASED MODEL IS AT LEAST AS STRINGENT AS THE BACT VALUES UNDER EPA'S CERTIFICATION.	8.5	G/HP-H	3 ONE HOUR TEST RUNS BY EPA METHOD 10	0			0		
FL-0322	SWEET SORGHUM-TO-ETHANOL ADVANCED BIOREFINERY	12/23/2010	Emergency Generators, Two 2682 HP EA	ULSD	0		Two emergency generators, each rated at 2,000 kW, will be installed to provide backup electrical power in the event of a power outage at the SRF facility. The engines will fire ULSD fuel oil or propane and each will be limited to 500 hours per year of operation during emergencies. Each unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. Each engine will be designed to meet USEPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.		3.5	G/KW-H		0			0		
*FL-0328	ENI - HOLY CROSS DRILLING PROJECT	10/27/2011	Emergency Engine	Diesel	580	HP	MAN D-2842 LE model engine	Use of good combustion practices, based on the current manufacturerâ€™s specifications for this engine	0.09	T/YR	12-MONTH ROLLING	2.82	G/HP-H		0		
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	2000 KW Emergency Equipment		0		One emergency generator rated at 2,000 kW (2,682 HP) will be installed to provide backup electrical power in the event of a power outage at the HEF facility. The generator will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation during emergencies. The unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.	See Pollutant Notes.	3.5	G/KW-H		0			0		

Table D-D-2
Carbon Monoxide (CO) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	600 HP Emergency Equipment	Ultra-Low Sulfur Oil	0		One 600 hp diesel fire pump engine will be installed to provide firewater during power outages. This unit will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation. This unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2009 or later.	See Pollutant Notes.	2.6	G/HP-H		0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - Development Driller 1	Diesel	2229	hp		Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.37	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - C.R. Luigs	diesel	2064	hp	Caterpillar D3516A 1998	Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.34	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Four 3100 kW black start emergency generators	ULSD	2.32	MMBtu/hr (HHV) per engine	Fired with ULSD	Good combustion practice	3.5	G/KW-H		0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Emergency fire pump engine (300 HP)	USLD	29	MMBtu/hr	Emergency engine. BACT = NSPS IIII.	Good combustion practice.	3.5	G/KW-H		0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Main Propulsion Generator Diesel Engines	Diesel	9910	hp	Four 1998 Wartsila 18V32LNE 9910 hp and Two 1998 Wartsila 12V32LNE 6610 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.8	G/KW-H	ROLLING 24 HOUR AVERAGE	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Emergency Diesel Engine	Diesel	3300	hp	1998 Wartsila 6R32LNE	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0			0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	EMERGENCY GENERATOR	DIESEL	1500	KW	THREE 1,500 KW EMERGENCY GENERATORS ARE BEING INSTALLED AS A PART OF THIS PROJECT. PERMITS 07-A-542-P, 07-A-576-P AND 07-A-577-P. THE PROJECT ALSO INCLUDES THE INSTALLATION OF ONE 2,00 KW EMERGENCY GENERATOR. PERMIT 07-A-578-P. ALL FOUR EMERGENCY GENERATORS HAVE THE SAME SHORT TERM BACT LIMITS AND DIFFERENT TON/YR BACT LIMITS.	NO SPECIFIC CONTROL TECHNOLOGY IS SPECIFED. ENGINE IS REQUIRED TO MEET LIMITS ESTABLISHED AS BACT (TIER 2 NONROAD). THIS COULD REQUIRE ANY NUMBER OF CONTROL TECHNOLOGIES AND OPERATIONAL REQ. TO MEET THE BACT STANDARD.	2.6	G/HP-H	AVERAGE OF 3 TEST RUNS	2.88	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	EMERGENCY GENERATOR	DIESEL	700	KW			3.5	G/KW-H	AVERAGE OF THREE STACK TEST RUNS	1.35	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	3.5	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	3.86	T/YR	ROLLING 12 MONTH TOTAL	0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	3.5	G/KW-H	AVERAGE OF THREE (3) STACK TEST RUNS	2.52	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	2 MW EMERGENCY GENERATOR, SRC25	ASTM #1, 2, DIESEL	2000	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	GOOD COMBUSTION PRACTICES. EPA CERTIFIED PER NSPS IIII	0		SEE NOTE	0			0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	500 KW EMERGENCY GENERATOR, FIRE PUMP, SRC26	ASTM #1, 2, DIESEL	500	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	GOOD COMBUSTION PRACTICES. EPA CERTIFICATION PER NSPS IIII.	0		SEE NOTE	0			0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	EMERGENCY GENERATOR ENGINE	DIESEL	750	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 2 ENGINE-BASED, GOOD COMBUSTION PRACTICES (GCP)	3.5	G/KW-H		0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Emergency Generator	distillate fuel oil	3755	HP		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	3.5	G/KW-H		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	2.6	G/HP-H		500	HOURS OF OPERATION	YEARLY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	2.6	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	TWO (2) EMERGENCY GENERATORS	DIESEL	1341	HORSEPOWER, EACH	IDENTIFIED AS EU-009A AND EU-009B	GOOD COMBUSTION PRACTICES AND LIMITED HOURS OF NON-EMERGENCY OPERATION	0			0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.61	G/HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY GENERATOR	NO. 2 FUEL OIL	4690	B-HP	ANNUAL HOURS OF OPERATION NOT TO EXCEED 200 HOURS.	GOOD COMBUSTION PRACTICES	2.61	G/HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.61	G/HP-H	3-HR AVERAGE	0			0		

Table D-D-2
Carbon Monoxide (CO) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
KS-0028	NEARMAN CREEK POWER STATION	10/18/2005	EMERGENCY BLACK START GENERATOR	NO. 2 FUEL OIL	24.1	MMBTU/H	THE CUMMINS POWER GENERATION DIESEL GENERATOR (MODEL NO.: QSK78-G6) SHALL ONLY COMBUST NO. 2 FUEL OIL WITH VERY LOW SULFUR CONTENT AS THE PRIMARY FUEL TYPE. THERE WILL BE NO SECONDARY FUEL FOR BACKUP. [NOTE: THE INCREASE IN SIZE OF THE EMERGENCY BLACK START GENERATOR CAUSED THE SIGNIFICANT MODIFICATION. IN THE ORIGINAL PERMIT, OCTOBER 21, 2004, THE EMERGENCY BLACK START GENERATOR WAS A CATERPILLAR DIESEL GENERATOR (MODEL NO.: 3508 DITA) 900 KW. IT WAS CHANGED TO A CUMMINS POWER GENERATION DIESEL GENERATOR (MODEL NO.: QSK78-G6) 2.8 MW.]	GOOD ENGINE DESIGN IS PROPOSED AS BACT	7.01	LB/H	FULL LOAD OPERATIONS	0			0		NOT AVAILABLE
LA-0211	GARYVILLE REFINERY	12/27/2006	EMERGENCY GENERATORS (DOCK & TANK FARM) (21-08 & 22-08)	DIESEL	1341	HP	21-08: 1341 HP 22-08: 671 HP GENERATORS PERMITTED FOR 182 H/YR EA.	USE OF DIESEL WITH A SULFUR CONTENT OF 15 PPMV OR LESS	0.0067	LB/HP-H	ANNUAL AVERAGE	0			0		
LA-0219	CREOLE TRAIL LNG IMPORT TERMINAL	8/15/2007	DIESEL EMERGENCY GENERATOR NOS. 1 & 2	DIESEL	2168	HP EACH		GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN INCORPORATING FUEL INJECTION TIMING RETARDATION (ITR)	12.24	LB/H	HOURLY MAXIMUM	3.06	T/YR	ANNUAL MAXIMUM	0		
LA-0231	LAKE CHARLES GASIFICATION FACILITY	6/22/2009	EMERGENCY DIESEL POWER GENERATOR ENGINES (2)	DIESEL	1341	HP EACH		COMPLY WITH 40 CFR 60 SUBPART IIII	0.62	LB/H	MAXIMUN (EACH)	0.21	G/HP-H		0		
LA-0251	FLOPAM INC. FACILITY	4/26/2011	Large Generator Engines (17 units)	Diesel	0		11 units: 591 hp 6 units: 1175 hp	no additional control	0.03	LB/H	(591 HP UNITS)	0.06	LB/H	(1175 HP UNITS)	3.5	G/KW-H	
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY DIESEL GENERATOR	DIESEL	1250	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	2.6	G/HP-H	ANNUAL AVERAGE	0			2.6	G/HP-H	ANNUAL AVERAGE
*LA-0272	AMMONIA PRODUCTION FACILITY	3/27/2013	EMERGENCY DIESEL GENERATOR (2205-B)	DIESEL	1200	HP	OPERATING TIME OF GENERATOR IS LIMITED TO 500 HR/YR.	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0			0			3.5	G/KW-HR	
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Emergency Engine/Generator	ULSD	7.4	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		2.6	G/HP-H	1 HR BLOCK AVG INCLUDING SS	6.34	LB/H	1 HR BLOCK AVG INCLUDING SS	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY GENERATOR 1	ULTRA LOW SULFU DIESEL	2250	KW	40 CFR 60 SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND HOURS OF OPERATION LIMITED TO 100 HOURS PER YEAR	2.6	G/HP-H		3.49	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1550	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES AND DESIGNED TO MEET EMISSION LIMIT	2.6	G/HP-H		3.49	G/KW-H		0		
MI-0389	KARN WEADOCK GENERATING COMPLEX	12/29/2009	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	2000	KW	2980 HP. OPERATIONAL LIMITS: 1 HR/DAY, 500 HRS/YR FOR PM2.5 NAAQS.	ENGINE DESIGN AND OPERATION. 15 PPM SULFUR FUEL.	3.5	G/KW-H	TEST METHOD	0			0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	EMERGENCY GENERATOR	NO. 2	1750	KW	THIS IS A 1750 KW GENERATOR THAT WAS INSTALLED IN PLACE OF THE 670 HP GENERATOR (LISTED AS A ‘‘IC ENGINE, LARGE, FUEL OIL) IN MN-0053		0.006	LB/HP-H	3 HOUR AVERAGE	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Emergency Generator	Ultra Low Sulfur distillate Diesel	100	H/YR	The Emergency Generator will use Ultra Low Sulfur distillate (ULSD) Diesel with 15 ppm % Sulfur by weight only	Use of ULSD oil	1.99	LB/H		0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Emergency Generator	ULSD	200	H/YR			11.56	LB/H		0			0		
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	SMALL INTERNAL COMBUSTION ENGINE (<600 HP) - UNIT FL12	DIESEL OIL	536	HP	UNIT FL12 IS A DETROIT DIESEL GENERATOR AT FLAMINGO LAS VEGAS. LIKE ALL THE OTHER DIESEL GENERATORS, THE UNIT IS SUBJECT TO THE LIMIT OF MONTHLY AND ANNUAL OPERATING TIMES FOR 2 HOURS PER MONTH AND 36 HOURS PER YEAR RESPECTIVELY. EMISSION FACTORS LISTED IN AP-42 ARE USED TO CALCULATE THE EMISSION LIMITS FOR EACH AND EVERY DIESEL GENERATOR IN THIS MAJOR STATIONARY SOURCE, AND ARE NOT REPEATED FURTHER FOR REPORTING THE BACT DETERMINATIONS.	THE UNIT IS EQUIPPED WITH A TURBOCHARGER.	0.0067	LB/HP-H		3.58	LB/H		0.0067	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	DIESEL EMERGENCY GENERATORS - UNITS CC009 THRU CC015 AT CITY CENTER	DIESEL OIL	3622	HP	THE SEVEN UNITS ARE IDENTICAL CATERPILLAR DIESEL EMERGENCY GENERATORS, EACH OF WHICH IS RATED AT 3,622 HORSEPOWER (HP). OPERATION OF EACH OF THE UNITS IS LIMITED TO ONE HOUR/DAY AND TWELVE HOURS/YEAR FOR TESTING AND MAINTENANCE PRUPOSES ONLY. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	TURBOCHARGER AND GOOD COMBUSTION PRACTICES	0.0017	LB/HP-H		6.05	LB/H		0.0017	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	EMERGENCY GENERATORS - UNITS LX024 AND LX025 AT LUXOR	DIESEL OIL	2206	HP	THE TWO UNITS ARE IDENTICAL CATERPILLAR GENERATORS MODEL 3512C. EACH UNIT HAS A FOUR-STROKE COMPRESSION-IGNITION ENGINE RATED AT 2,206 HORSE POWER (HP). THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #10 DATED SEPTEMBER 20, 2006. EACH UNIT IS ALLOWED TO OPERATE UP TO ONE HOUR PER DAY AND FIFTY TWO HOURS PER YEAR.	TURBOCHARGER AND GOOD COMBUSTION PRACTICES	0.0018	LB/HP-H		3.95	LB/H		0.0018	LB/HP-H	
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	EMERGENCY GENERATOR	DIESEL FUEL OIL	2922	HP	2922 MAXIMUM HORSE POWER SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN	15.18	LB/H		3.8	T/YR	PER ROLLING 12-MONTH PERIOD	3.5	G/KW-H	FROM PART 89, SECTION 112
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency generator	diesel	2250	KW	Emergency diesel fired generator restricted to 500 hours of operation per rolling 12-months.	Purchased certified to the standards in NSPS Subpart IIII	17.35	LB/H		4.34	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
OK-0118	HUGO GENERATING STA	2/9/2007	EMERGENCY DIESEL INTERNAL COMBUSTION ENGINES					USE OF LOW SULFUR NO.2 FUEL OIL COMBINED WITH GOOD COMBUSTION PRACTICES AND LIMITED ANNUAL OPERATION	0		SEE NOTE	0			0		
OK-0128	MID AMERICAN STEEL ROLLING MILL	9/8/2008	Emergency Generator	No. 2 diesel	1200	HP			6.6	LB/H		1.65	T/YR		2.49	G/HP-H	
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY DIESEL GENERATOR (2200 HP)	LOW SULFUR DIESEL	2200	HP			12.66	LB/H		3.5	G/KW-H	NSPS	0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY FIRE PUMP (267-HP DIESEL)	LOW SULFUR DIESEL	267	HP			2.6	G/HP-H	NSPS	0			0		

Table D-D-2
Carbon Monoxide (CO) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Emergency Generator	Diesel	0		The emergency generator will be restricted to operate not more than 100 hr/yr.		0.13	G/HP-H		0.42	LB/H		0.13	G/B-HP-H	
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY GENERATOR	Ultra Low sulfur Distillate	7.8	MMBTU/H	EMERGENCY GENERATOR (1,135 BHP - 750 KW)		5.79	LB/H		0.29	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0292	ML 35 LLC/PHILA CYBERCENTER	6/1/2012	DIESEL GENERATOR (2.25 MW EACH) - 5 UNITS	#2 Oil	0		Engines are equipped with SCR and CO Oxidation catalyst	CO Oxidation Catalyst	3.5	G/KW-H		0.04	T/YR	12-MONTH ROLLING	0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)		2.6	G/HP-H		3.86	LB/H		0		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	EMERGENCY GENERATORS 1 THRU 8	DIESEL	757	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF EIGHT (8) IDENTICAL EMERGENCY GENERATORS. THIS PROCESS AND POLLUTANT INFORMATION IS FOR ONE SINGLE EMERGENCT GENERATOR.	ENGINES MUST BE CERTIFIED TO COMPLY WITH NSPS, SUBPART IIII.	3.5	G/KW-H		0			0		
SC-0114	GP ALLENDALE LP	11/25/2008	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES.		3.03	LB/H		0.76	T/YR		0.98	G/HP-H	
SC-0115	GP CLARENDON LP	2/10/2009	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES. THE DIESEL EMERGENCY GENERATOR IS LIMITED TO 500 HOURS OF OPERATION PER YEAR.	TUNE-UPS AND INSPECTIONS WILL BE PERFORMED AS OUTLINED IN THE GOOD MANAGEMENT PRACTICE PLAN.	3.03	LB/H		0.76	T/YR		0.98	G/HP-H	
*SC-0132	ARGOS HARLEYVILLE PLANT	12/14/2007	EMERGENCY GENERATOR	DIESEL	1000	KW			0			0			0		
*SD-0005	DEER CREEK STATION	6/29/2010	Emergency Generator	Distillate Oil	2000	Kilowatts			0			0			0		
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Emergency Diesel Generator	Diesel	1500	hp	The emergency generator (EPN 17-1-4) at the site is diesel fired and rated at 1500 horsepower (hp). Lowest Achievable Emission Rates (LAER) for nitrogen oxides (NOx) is the use of a 40 Code Federal Rules (CFR) Part 89 Tier 2 engine and limited hours of operation. Emissions from the engine shall not exceed 0.0218 grams per horsepower-hour (g/hp-hr) of nitrogen oxides (NOx). The engine is limited to 52 hours per year of non-emergency operation. Emissions from the engine shall not exceed 0.01256 g/hp hr of carbon monoxide (CO). The fuel for the engine is limited to 15 parts per million sulfur by weight (ultra-low sulfur diesel). The engine is limited to 52 hours per year of non-emergency operation. Also applicable: 40CFR60 IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engine and 40CFR63 ZZZZ, National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines.	Minimized hours of operations (50 hours) Tier II engine	0.0126	G/HP-H		0.2	T/YR		0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Emergency Generator	Diesel	2015.7	HP	Nominal 1,500 kW. Limited to 100 hours/year.		0			0			2.6	G/HP-HR	
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Diesel Emergency Generator (EP15)	Ultra Low Sulfur Diesel	839	hp		EPA Tier 2 rated	0			0			0		

Table D-D-3
Volatile Organic Compounds (VOC) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AL-0318	TALLADEGA SAWMILL	12/18/2017	250 Hp Emergency CI, Diesel-fired RICE	Diesel	0		Emergency Only		0			0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	DISTILLATE OIL	3600	HP EACH		GOOD COMBUSTION PRACTICES	0.35	G/HP-H EACH	3 HOUR AVERAGE	500	H/YR EACH		0		
LA-0276	BATON ROUGE JUNCTION FACILITY	12/15/2016	Emergency Generators (2 units)	natural gas	0		EQT0061 = 150 kW EQT0062 = 65 kW	Comply with standards of NSPS Subpart JJJJ	0			0			0		
LA-0292	HOLBROOK COMPRESSOR STATION	1/22/2016	Emergency Generators No. 1 & No. 2	Diesel	1341	HP		Good combustion practices consistent with the manufacturer's recommendations to maximize fuel efficiency and minimize emissions	0.83	LB/HR	HOURLY MAXIMUM	0.04	TPY	ANNUAL MAXIMUM	0.28		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	Diesel	1474	horsepower	Operating hours limit: 100 hr/yr.	Compliance with NSPS Subpart IIII	0.04	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Generator 1	Diesel	2584	HP		Good combustion practices	27.34	LB/H	HOURLY MAXIMUM	6.84	T/YR	ANNUAL MAXIMUM	0		
LA-0316	CAMERON LNG FACILITY	2/17/2017	emergency generator engines (6 units)	diesel	3353	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMENGINE (Diesel fuel emergency engine)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices.	1.87	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.64	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (North Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices.	0.86	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices	0.86	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUEMENGINE: Emergency engine	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	State of the art combustion design.	1.89	LB/H	HOURLY	0			0		
TX-0799	BEAUMONT TERMINAL	6/8/2016	EMERGENCY ENGINES	diesel	0			Equipment specifications and good combustion practices. Operation limited to 100 hours per year.	0.0025	LB/HP-HR		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	DIESEL FUEL	0			Good Combustion Practices/Maintenance	6.4	G/KW	PER HR	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	PROPANE-FIRED EMERGENCY GENERATORS 150 kW (2)	PROPANE	0			Good combustion practices	1	G/HP-H	PER HR	0			0		
VA-0327	PERDUE GRAIN AND OILSEED, LLC	7/12/2017	Emergency Generator	Diesel	0		760 bhp engine		0.49	LB/HR		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Remote Incinerator Generator Engine	Ultra Low Sulfur Diesel	102	hp	102 hp ULSD-fired existing, small, remote Waste Incinerator		3	LB/TON		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Emergency Camp Generators	Ultra Low Sulfur Diesel	2695	hp	Three 2,695 hp ULSD-fired Standby Camp Generator Engines.	no add on controls	0.0007	LB/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Airstrip Generator Engine	Ultra Low Sulfur Diesel	490	hp	One 490 hp Airstrip Generator Engine		0.0025	LB/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Agitator Generator Engine	Ultra Low Sulfur Diesel	98	hp	ULSD-fired 98 hp Agitator Generator Engine		0.0025	LB/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Incinerator Generator Engine	Ultra Low Sulfur Diesel	102	hp	ULSD-fired 102 hp Incinerator Generator Engine		0.0025	LB/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Bulk Tank Generator Engines	Ultra Low Sulfur Diesel	891	hp	Two ULSD-fired 891 hp Bulk Tank Storage Area Generator Engines		0.0007	LB/HP-H		0			0		
AL-0251	HILLABEE ENERGY CENTER	9/24/2008	EMERGENCY GENERATOR	DIESEL	600	EKW		GOOD COMBUSTION PRACTICES	0			0			0		
*FL-0328	ENI - HOLY CROSS DRILLING PROJECT	10/27/2011	Emergency Engine	Diesel	580	HP	MAN D-2842 LE model engine	Use of good combustion practices, based on the current manufacturerâ€™s specifications for this engine	0.03	T/YR	12-MONTH ROLLING	0.94	G/HP-H		0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - Development Driller 1	Diesel	2229	hp		Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.04	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		

Table D-D-3
Volatile Organic Compounds (VOC) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - C.R. Luigs	diesel	2064	hp	Caterpillar D3516A 1998	Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.04	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Main Propulsion Generator Diesel Engines	Diesel	9910	hp	Four 1998 Wartsila 18V32LNE 9910 hp and Two 1998 Wartsila 12V32LNE 6610 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.35	G/KW-H	ROLLING 24 HOUR AVERAGE	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Emergency Diesel Engine	Diesel	3300	hp	1998 Wartsila 6R32LNE	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0			0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Remotely Operated Vehicle Emergency Generator	Diesel	427	hp	2004 Cummins QSM11-G2NR3	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0			0			0		
IA-0084	ADM POLYMERS	11/30/2006	EMERGENCY GENERATOR	DIESEL FUEL	74.3	GAL/H	1,502 BHP	GOOD COMBUSTION PRACTICES	4.8	GAL/B-HP-H	AVERAGE OF THREE (3) 1-H TEST RUNS	3.97	T/YR	ROLLING 12 MONTH TOTAL	0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	EMERGENCY GENERATOR	DIESEL	1500	KW	THREE 1,500 KW EMERGENCY GENERATORS ARE BEING INSTALLED AS A PART OF THIS PROJECT. PERMITS 07-A-542-P, 07-A-576-P AND 07-A-577-P. THE PROJECT ALSO INCLUDES THE INSTALLATION OF ONE 2,00 KW EMERGENCY GENERATOR. PERMIT 07-A-578-P. ALL FOUR EMERGENCY GENERATORS HAVE THE SAME SHORT TERM BACT LIMITS AND DIFFERENT TON/YR BACT LIMITS.	NO SPECIFIC CONTROL TECHNOLOGY IS SPECIFED. ENGINE IS REQUIRED TO MEET LIMITS ESTABLISHED AS BACT (TIER 2 NONROAD). THIS COULD REQUIRE ANY NUMBER OF CONTROL TECHNOLOGIES AND OPERATIONAL REQ. TO MEET THE BACT STANDARD.	0.3	G/HP-H	AVERAGE OF 3 TEST RUNS	0.33	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	EMERGENCY GENERATOR	DIESEL	700	KW			0.2	G/KW-H	AVERAGE OF THREE STACK TEST RUNS	0.08	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	0.4	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0.44	T/YR	ROLLING 12 MONTH TOTAL	0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	4	G/KW-H	AVERAGE OF THREE (3) STACK TEST RUNS	0.31	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	EMERGENCY GENERATOR ENGINE	DIESEL	750	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 2 ENGINE-BASED, GOOD COMBUSTION PRACTICES (GCP)	6.4	G/KW-H	NOX+NMHC	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Emergency Generator	distillate fuel oil	3755	HP		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.4	G/KW-H		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	1.04	LB/H		500	HOURS OF OPERATION	YEARLY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	1.04	LB/H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY GENERATOR ULSD TANKS		550	GALLONS EACH	THE TWO (2) TANKS ARE IDENTIFIED AS TK07 AND TK08	GOOD DESIGN AND OPERATING PRACTICES	0			0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY GENERATOR ULSD TANK		300	GALLONS	THIS TANK IS IDENTIFIED AS TK50	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	0			0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.31	G/HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY GENERATOR	NO. 2 FUEL OIL	4690	B-HP	ANNUAL HOURS OF OPERATION NOT TO EXCEED 200 HOURS.	GOOD COMBUSTION PRACTICES	0.31	G/HP-H	3-HR AVERAGE	0			0		
LA-0211	GARYVILLE REFINERY	12/27/2006	EMERGENCY GENERATORS (DOCK & TANK FARM) (21-08 & 22-08)	DIESEL			21-08: 1341 HP 22-08: 671 HP GENERATORS PERMITTED FOR 182 H/YR EA.	USE OF DIESEL WITH A SULFUR CONTENT OF 15 PPMV OR LESS	0.0025	LB/HP-H	ANNUAL AVERAGE	0			0		
LA-0219	CREOLE TRAIL LNG IMPORT TERMINAL	8/15/2007	DIESEL EMERGENCY GENERATOR NOS. 1 & 2	DIESEL	2168	HP EACH		GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN	1.67	LB/H	HOURLY MAXIMUM	0.42	T/YR	ANNUAL MAXIMUM	0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY DIESEL GENERATOR	DIESEL	1250	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	1	G/HP-H	ANNUAL AVERAGE	0			1	G/HP-H	ANNUAL AVERAGE
*LA-0272	AMMONIA PRODUCTION FACILITY	3/27/2013	EMERGENCY DIESEL GENERATOR (2205-B)	DIESEL	1200	HP	OPERATING TIME OF GENERATOR IS LIMITED TO 500 HR/YR.	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0			0			6.4	G/KW-HR	NOX + NMHC
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1550	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE ONLY ULSD, GOOD COMBUSTION PRACTICES, AND DESIGNED TO ACHIEVE EMISSION LIMIT	4.8	G/HP-H	COMBINED NOX + NMHC	6.4	G/KW-H	COMBINED NOX + NMHC	0		

Table D-D-3
Volatile Organic Compounds (VOC) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	EMERGENCY GENERATOR	NO. 2	1750	KW	THIS IS A 1750 KW GENERATOR THAT WAS INSTALLED IN PLACE OF THE 670 HP GENERATOR (LISTED AS A ‘‘IC ENGINE, LARGE, FUEL OIL) IN MN-0053		0.0007	LB/HP-H	3 HOUR AVERAGE	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Emergency Generator	Ultra Low Sulfur distillate Diesel	100	H/YR	The Emergency Generator will use Ultra Low Sulfur distillate (ULSD) Diesel with 15 ppm % Sulfur by weight only	Use of ULSD oil	0.49	LB/H		0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Emergency Generator	ULSD	200	H/YR		use of ULSD, a low sulfur clean fuel	2.62	LB/H		0			0		
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	SMALL INTERNAL COMBUSTION ENGINE (<600 HP) - UNIT FL12	DIESEL OIL	536	HP	UNIT FL12 IS A DETROIT DIESEL GENERATOR AT FLAMINGO LAS VEGAS. LIKE ALL THE OTHER DIESEL GENERATORS, THE UNIT IS SUBJECT TO THE LIMIT OF MONTHLY AND ANNUAL OPERATING TIMES FOR 2 HOURS PER MONTH AND 36 HOURS PER YEAR RESPECTIVELY. EMISSION FACTORS LISTED IN AP-42 ARE USED TO CALCULATE THE EMISSION LIMITS FOR EACH AND EVERY DIESEL GENERATOR IN THIS MAJOR STATIONARY SOURCE, AND ARE NOT REPEATED FURTHER FOR REPORTING THE BACT DETERMINATIONS.	THE UNIT IS EQUIPPED WITH A TURBOCHARGER.	0.0025	LB/HP-H		1.35	LB/H		0.0025	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	DIESEL EMERGENCY GENERATORS - UNITS CC009 THRU CC015 AT CITY CENTER	DIESEL OIL	3622	HP	THE SEVEN UNITS ARE IDENTICAL CATERPILLAR DIESEL EMERGENCY GENERATORS, EACH OF WHICH IS RATED AT 3,622 HORSEPOWER (HP). OPERATION OF EACH OF THE UNITS IS LIMITED TO ONE HOUR/DAY AND TWELVE HOURS/YEAR FOR TESTING AND MAINTENANCE PRUPOSES ONLY. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	TURBOCHARGER AND GOOD COMBUSTION PRACTICES	0.0003	LB/HP-H		0.93	LB/H		0.0003	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	EMERGENCY GENERATORS - UNITS LX024 AND LX025 AT LUXOR	DIESEL OIL	2206	HP	THE TWO UNITS ARE IDENTICAL CATERPILLAR GENERATORS MODEL 3512C. EACH UNIT HAS A FOUR-STROKE COMPRESSION-IGNITION ENGINE RATED AT 2,206 HORSE POWER (HP). THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #10 DATED SEPTEMBER 20, 2006. EACH UNIT IS ALLOWED TO OPERATE UP TO ONE HOUR PER DAY AND FIFTY TWO HOURS PER YEAR.	TURBOCHARGER AND GOOD COMBUSTION PRACTICES	0.0003	LB/HP-H		0.71	LB/H		0.0003	LB/HP-H	
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	EMERGENCY GENERATOR	DIESEL FUEL OIL	2922	HP	2922 MAXIMUM HORSE POWER SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN	1.39	LB/H		0.35	T/YR	PER ROLLING 12-MONTH PERIOD	6.4	G/KW-H	FOR NMHC AND NOX COMBINED, 5% NMHC
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency generator	diesel	2250	KW	Emergency diesel fired generator restricted to 500 hours of operation per rolling 12-months.	Purchased certified to the standards in NSPS Subpart IIII	3.93	LB/H		0.98	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
OK-0118	HUGO GENERATING STA	2/9/2007	EMERGENCY DIESEL INTERNAL COMBUSTION ENGINES					USE OF LOW SULFUR NO.2 FUEL OIL COMBINED WITH GOOD COMBUSTION PRACTICES AND LIMITED ANNUAL OPERATION	0		SEE NOTE	0			0		
OK-0128	MID AMERICAN STEEL ROLLING MILL	9/8/2008	Emergency Generator	No. 2 diesel	1200	HP			0.77	LB/H		0.19	T/YR		2.87	G/HP-H	
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY DIESEL GENERATOR (2200 HP)	LOW SULFUR DIESEL	2200	HP		GOOD COMBUSTION	1.55	LB/H		0			0		
PA-0271	MERCK & CO. WESTPOINT	2/23/2007	MOBILE EMERGENCY GENERATOR	DIESEL					0.32	G/HP-H		0.4	T/YR		#DIV/0!		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Emergency Generator	Diesel	0		The emergency generator will be restricted to operate not more than 100 hr/yr.		0.01	G/HP-H		0.03	LB/H		#DIV/0!		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY GENERATOR	Ultra Low sulfur Distillate	7.8	MMBTU/H	EMERGENCY GENERATOR (1,135 BHP - 750 KW)		0.7	LB/H		0.03	12-MONTH ROLLING TOT		69.78346154		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)	Is certified by the manufacturer to meet the emission standards required by 40 CFR Part 89, Subpart B Table 1 for non-road compression ignition engines.	0.15	G/HP-H		0.22	LB/H		#DIV/0!		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	EMERGENCY ENGINE 1 THRU 8	DIESEL	29	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF EIGHT (8) IDENTICAL EMERGENCY ENGINES. THIS PROCESS AND POLLUTANT INFORMATION IS FOR ONE SINGLE ENGINE.	PURCHASE OF CERTIFIED ENGINES. HOURS OF OPERATION LIMITED TO 100 HOURS FOR MAINTENANCE AND TESTING.	7.5	G/KW-H		0			0		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	EMERGENCY GENERATORS 1 THRU 8	DIESEL	757	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF EIGHT (8) IDENTICAL EMERGENCY GENERATORS. THIS PROCESS AND POLLUTANT INFORMATION IS FOR ONE SINGLE EMERGENCT GENERATOR.	PURCHASE ENGINES CERTIFIED TO COMPLY WITH NSPS, SUBPART IIII.	4	G/KW-H		0			0		
SC-0114	GP ALLENDALE LP	11/25/2008	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES.		0.32	LB/H		0.08	T/YR		1.04	G/HP-H	
SC-0115	GP CLARENDON LP	2/10/2009	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES. THE DIESEL EMERGENCY GENERATOR IS LIMITED TO 500 HOURS OF OPERATION PER YEAR.	TUNE-UPS AND INSPECTIONS WILL BE PERFORMED AS OUTLINED IN THE GOOD MANAGEMENT PRACTICE PLAN.	0.32	LB/H		0.08	T/YR		1.04	G/HP-H	
*SC-0132	ARGOS HARLEYVILLE PLANT	12/14/2007	EMERGENCY GENERATOR	DIESEL	1000	KW			0			0			0		
SC-0159	US10 FACILITY	7/9/2012	EMERGENCY GENERATORS, GEN1, GEN2	DIESEL	1000	KW	(2) 1,000 KW EMERGENCY GENERATORS THAT ARE OPERATED A TOTAL OF 100 HOURS PER YEAR OR LESS FOR TESTING AND MAINTENANCE.	BACT HAS BEEN DETERMINED TO BE COMPLIANCE WITH NSPS, SUBPART IIII, 40 CFR60.4202 AND 40 CFR60.4205.	6.4	G/KW-H		0			0		

Table D-D-3
Volatile Organic Compounds (VOC) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Emergency Diesel Generator	Diesel	1500	hp	The emergency generator (EPN 17-1-4) at the site is diesel fired and rated at 1500 horsepower (hp). Lowest Achievable Emission Rates (LAER) for nitrogen oxides (NOx) is the use of a 40 Code Federal Rules (CFR) Part 89 Tier 2 engine and limited hours of operation. Emissions from the engine shall not exceed 0.0218 grams per horsepower-hour (g/hp-hr) of nitrogen oxides (NOx). The engine is limited to 52 hours per year of non-emergency operation. Emissions from the engine shall not exceed 0.01256 g/hp hr of carbon monoxide (CO). The fuel for the engine is limited to 15 parts per million sulfur by weight (ultra-low sulfur diesel). The engine is limited to 52 hours per year of non-emergency operation. Also applicable: 40CFR60 IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engine and 40CFR63 ZZZZ, National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines.	Minimized hours of operations Tier II engine	0.7	LB/H		0.02	T/YR		0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Emergency Generator	Diesel	2015.7	HP	Nominal 1,500 kW. Limited to 100 hours/year.		1.24	LB/H		0			0		

Table D-D-4
Particulate Matter (PM) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Black Start and Emergency Internal Cumbustion Engines	Diesel	1500	kWe	Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.	Clean Fuel and Good Combustion Practices	0.25	G/KW-HR	3-HOUR AVERAGE	0			0		
*AL-0318	TALLADEGA SAWMILL	12/18/2017	250 Hp Emergency CI, Diesel-fired RICE	Diesel	0		Emergency Only		0			0			0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Three 3300-kW ULSD emergency generators	ULSD	0		BACT limits equal to NSPS Subpart IIII limits. Will use IIII certified engine.	Use of clean fuel	0.2	G / KW-HR		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	Two 3300 kW emergency generators	ULSD	0		Two ULSD-fueled emergency engines. BACT = Subpart IIII limits.	Clean fuel	0.2	GRAMS PER KWH		0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	DISTILLATE OIL	3600	HP EACH		GOOD COMBUSTION PRACTICES	0.15	G/HP-H EACH	3 HOUR AVERAGE	500	H/YR EACH		0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1600 kW (EUEMRGRICE in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	1.41	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0.2	G/KW-H	TEST PROTOCOL WILL SPECIFY AVG TIME	0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMENGINE (Diesel fuel emergency engine)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	0.2	G/KW-H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	0.15	G/BHP-H	TEST PROTOCOL WILL SPECIFY AVG TIME.	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.66	LB/H	TEST PROTOCOL SHALL SPECIFY	0.2	G/KW-H	TEST PROTOCOL SHALL SPECIFY	0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.22	LB/H	TEST PROTOCOL SHALL SPECIFY	0.2	G/KW-H	TEST PROTOCOL SHALL SPECIFY	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (North Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.2	G/KW-H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS IIII requirements.	0.2	G/KW-H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUEMENGINE: Emergency engine	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	State of the art combustion design	0.2	G/KW-H	HOURLY	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Diesel Fired Emergency Generator	ULSD	44	H/YR		use of ULSD a clean burning fuel, and limited hours of operation	0.26	LB/H		0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Emergency Generator Engines	ULSD	0		(2) 1500 kW emergency diesel genset. Emission limitations are for each genset and fuel is restricted to ULSD (15 ppm) and each is restricted to 100 hrs on a 12-month rolling basis.		0.15	G/BHP-HR		0			0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	Caterpillar 3215C Black Start Generator (1)	ULSD	1500	KW-e		Good Combustion Practices	0.03	G/HP-H	INSTANTANEOUS	0			0		
AL-0251	HILLABEE ENERGY CENTER	9/24/2008	EMERGENCY GENERATOR	DIESEL	600	EKW		LOW SULFUR DIESEL FUEL	0			0			0		
*AL-0301	NUCOR STEEL TUSCALOOSA, INC.	7/22/2014	DIESEL FIRED EMERGENCY GENERATOR	DIESEL	800	HP			0.0007	LB/HP-H		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY ENGINE	DIESEL	2000	KW	2000 KW (2,683 hp) engine	OPERATIONAL RESTRICTION OF 50 HR/YR; USE OF ULTRA LOW SULFUR FUEL NOT TO EXCEED 15 PPMVD FUEL SULFUR	0.2	G/KW-H		0.15	G/HP-H		0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	EMERGENCY IC ENGINE	DIESEL	2683	HP	UNIT IS 2000 KW.	USE ULTRA LOW SULFUR FUEL	0.2	G/KW-H		0.15	G/HP-H		0		
FL-0322	SWEET SORGHUM-TO-ETHANOL ADVANCED BIOREFINERY	12/23/2010	Emergency Generators, Two 2682 HP EA	ULSD	0		Two emergency generators, each rated at 2,000 kW, will be installed to provide backup electrical power in the event of a power outage at the SRF facility. The engines will fire ULSD fuel oil or propane and each will be limited to 500 hours per year of operation during emergencies. Each unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. Each engine will be designed to meet USEPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.		0.2	G/KW-H		0			0		
*FL-0328	ENI - HOLY CROSS DRILLING PROJECT	10/27/2011	Emergency Engine	Diesel	0		MAN D-2842 LE model engine	Use of good combustion practices, based on the current manufacturerâ€™s specifications for this engine	0.03	T/YR	12-MONTH ROLLING	0			0		
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	2000 KW Emergency Equipment		0		One emergency generator rated at 2,000 kW (2,682 HP) will be installed to provide backup electrical power in the event of a power outage at the HEF facility. The generator will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation during emergencies. The unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.	See Pollutant Notes.	0.2	G/KW-H		0			0		

Table D-D-4
Particulate Matter (PM) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	600 HP Emergency Equipment	Ultra-Low Sulfur Oil	0		One 600 hp diesel fire pump engine will be installed to provide firewater during power outages. This unit will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation. This unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2009 or later.	See Pollutant Notes.	0.15	G/HP-H		0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - Development Driller 1	Diesel	2229	hp		Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.03	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - C.R. Luigs	diesel	2064	hp	Caterpillar D3516A 1998	Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.04	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Four 3100 kW black start emergency generators	ULSD	2.32	MMBtu/hr (HHV) per engine	Fired with ULSD	Good combustion practice	0.2	G/KW-H		0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Emergency fire pump engine (300 HP)	USLD	29	MMBtu/hr	Emergency engine. BACT = NSPS IIII.	Good combustion practice	0.2	G/HP-H		0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Main Propulsion Generator Diesel Engines	Diesel	9910	hp	Four 1998 Wartsila 18V32LNE 9910 hp and Two 1998 Wartsila 12V32LNE 6610 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.43	G/KW-H	ROLLING 24 HOUR AVERAGE	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Emergency Diesel Engine	Diesel	3300	hp	1998 Wartsila 6R32LNE	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0			0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	EMERGENCY GENERATOR	DIESEL	1500	KW	THREE 1,500 KW EMERGENCY GENERATORS ARE BEING INSTALLED AS A PART OF THIS PROJECT. PERMITS 07-A-542-P, 07-A-576-P AND 07-A-577-P. THE PROJECT ALSO INCLUDES THE INSTALLATION OF ONE 2,00 KW EMERGENCY GENERATOR. PERMIT 07-A-578-P. ALL FOUR EMERGENCY GENERATORS HAVE THE SAME SHORT TERM BACT LIMITS AND DIFFERENT TON/YR BACT LIMITS.	NO SPECIFIC CONTROL TECHNOLOGY IS SPECIFED. ENGINE IS REQUIRED TO MEET LIMITS ESTABLISHED AS BACT (TIER 2 NONROAD). THIS COULD REQUIRE ANY NUMBER OF CONTROL TECHNOLOGIES AND OPERATIONAL REQ. TO MEET THE BACT STANDARD.	0.15	G/HP-H	AVERAGE OF 3 TEST RUNS	0.17	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	EMERGENCY GENERATOR	DIESEL	700	KW			0.2	G/KW-H	AVERAGE OF THREE STACK TEST RUNS	0.08	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	0.2	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0.22	T/YR	ROLLING 12 MONTH TOTAL	0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	0.2	G/KW-H	AVERAGE OF THREE (3) STACK TEST RUNS	0.02	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	2 MW EMERGENCY GENERATOR, SRC25	ASTM #1, 2, DIESEL	2000	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	ULSD FUEL, GOOD COMBUSTION PRACTICES, EPA CERTIFIED PER NSPS IIII	0		SEE NOTE	0			0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	500 KW EMERGENCY GENERATOR, FIRE PUMP, SRC26	ASTM #1, 2, DIESEL	500	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	ULSD FUEL, EPA CERTIFICATION PER NSPS IIII	0		SEE NOTE	0			0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	EMERGENCY GENERATOR ENGINE	DIESEL	750	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 2 ENGINE-BASED, GOOD COMBUSTION PRACTICES (GCP)	0.2	G/KW-H		0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Emergency Generator	distillate fuel oil	3755	HP		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-H		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/HP-H		500	HOURS OF OPERATION	YEARLY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEALRY	0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	TWO (2) EMERGENCY GENERATORS	DIESEL	1341	HORSEPOWER, EACH	IDENTIFIED AS EU-009A AND EU-009B	USE OF LOW-S DIESEL AND LIMITED HOURS OF NON-EMERGENCY OPERATION	15	PPM SULFUR		0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY GENERATOR	NO. 2 FUEL OIL	4690	B-HP	ANNUAL HOURS OF OPERATION NOT TO EXCEED 200 HOURS.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		

Table D-D-4
Particulate Matter (PM) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY GENERATOR 1	ULTRA LOW SULFU DIESEL	2250	KW	40 CFR 60 SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H		0.2	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1550	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H		0.2	G/KW-H		0		
MI-0389	KARN WEADOCK GENERATING COMPLEX	12/29/2009	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	2000	KW	2980 HP. OPERATIONAL LIMITS: 1 HR/DAY, 500 HRS/YR FOR PM2.5 NAAQS.	ENGINE DESIGN AND OPERATION. 15 PPM SULFUR FUEL.	0.2	G/KW-H	TEST METHOD	0			0		
*MI-0400	WOLVERINE POWER	6/29/2011	Emergency generator	Diesel	4000	HP	Maximum operation was based on 500 hours per year.		0.15	G/HP-H	TEST PROTOCOL; BACT/SIP/NSPS	0			0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	EMERGENCY GENERATOR	NO. 2	1750	KW	THIS IS A 1750 KW GENERATOR THAT WAS INSTALLED IN PLACE OF THE 670 HP GENERATOR (LISTED AS A ‘‘IC ENGINE, LARGE, FUEL OIL) IN MN-0053		0.0007	LB/HP-H	3 HOUR	0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Emergency Generator	ULSD	200	H/YR		use of ULSD, a low sulfur clean fuel	0.59	LB/H		0			0		
NY-0101	CORNELL COMBINED HEAT & POWER PROJECT	3/12/2008	EMERGENCY DIESEL GENERATORS (2)	LOW SULFUR DIESEL	1000	KW	TWO (2) GENERATORS LIMITED TO 800 HOURS FOR BOTH ANNUALLY	ULTRA LOW SULFUR DIESEL AT 15 PPM S.	0.19	LB/H	1 HOUR AVG	20	% OPACITY		0.00	G/KW-H	
PA-0271	MERCK & CO. WESTPOINT	2/23/2007	MOBILE EMERGENCY GENERATOR	DIESEL					0.16	G/HP-H		0.2	T/YR		0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY GENERATOR	Ultra Low sulfur Distillate	7.8	MMBTU/H	EMERGENCY GENERATOR (1,135 BHP - 750 KW)		0.02	T/YR	12-MONTH ROLLING TOTAL	0			0		
*PA-0292	ML 35 LLC/PHILA CYBERCENTER	6/1/2012	DIESEL GENERATOR (2.25 MW EACH) - 5 UNITS	#2 Oil	0		Engines are equipped with SCR and CO Oxidation catalyst		0.28	LB/H		0.03	T/YR	AS A 12-MONTH ROLLING	0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)		0.15	G/HP-H		0.22	LB/H		0		
SC-0114	GP ALLENDALE LP	11/25/2008	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES.		0.25	LB/H		0.06	T/YR		0.00	G/HP-H	
SC-0115	GP CLARENDON LP	2/10/2009	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES. THE DIESEL EMERGENCY GENERATOR IS LIMITED TO 500 HOURS OF OPERATION PER YEAR.	TUNE-UPS AND INSPECTIONS WILL BE PERFORMED AS OUTLINED IN THE GOOD MANAGEMENT PRACTICE PLAN.	0.25	LB/H		0.06	T/YR		0.00	G/HP-H	
*SD-0005	DEER CREEK STATION	6/29/2010	Emergency Generator	Distillate Oil	2000	Kilowatts			0			0			0		
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Emergency Diesel Generator	Diesel	1500	hp	The emergency generator (EPN 17-1-4) at the site is diesel fired and rated at 1500 horsepower (hp). Lowest Achievable Emission Rates (LAER) for nitrogen oxides (NOx) is the use of a 40 Code Federal Rules (CFR) Part 89 Tier 2 engine and limited hours of operation. Emissions from the engine shall not exceed 0.0218 grams per horsepower-hour (g/hp-hr) of nitrogen oxides (NOx). The engine is limited to 52 hours per year of non-emergency operation. Emissions from the engine shall not exceed 0.01256 g/hp hr of carbon monoxide (CO). The fuel for the engine is limited to 15 parts per million sulfur by weight (ultra-low sulfur diesel). The engine is limited to 52 hours per year of non-emergency operation. Also applicable: 40CFR60 IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engine and 40CFR63 ZZZZ, National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines.	Minimized hours of operations Tier II engine	0.15	LB/H		0.01	T/YR		0		

Table D-D-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	250 Hp Emergency CI, Diesel-fired RICE	Diesel	1500	kWe	Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.	Clean Fuel and Good Combustion Practices	0.25	G/KW-HR	3-HOUR AVERAGE	0			0		
*AL-0318	TALLADEGA SAWMILL	12/18/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	Diesel	0		Emergency Only		0			0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	Diesel Engines (Emergency)	DISTILLATE OIL	3600	HP EACH		GOOD COMBUSTION PRACTICES	0.15	G/HP-H EACH	3 HOUR AVERAGE	500	H/YR EACH		0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	Diesel	4023	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	SCPS Emergency Diesel Generator 1	Diesel	1474	horsepower	Operating hours limit: 100 hr/yr.	Compliance with NSPS Subpart IIII	0.08	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	emergency generator engines (6 units)	Diesel	2584	HP		Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	0.86	LB/H	HOURLY MAXIMUM	0.21	T/YR	ANNUAL MAXIMUM	0		
LA-0316	CAMERON LNG FACILITY	2/17/2017	Emergency Generator Engines (4 units)	diesel	3353	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	Diesel	0		I-GDE-1201, II-GDE-1201 = 2346 hp I-GDE-1202 = 755 hp I-GDE-1203 = 1193 hp	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	EUEMENGINE (Diesel fuel emergency engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1600 kW (EUEMRGRICE in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	1.41	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME.	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices.	1.58	LB/H	HOURLY	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.57	LB/H	HOURLY	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.66	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMENGINE (North Plant): Emergency Engine	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.22	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.54	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE: Emergency engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.54	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	Diesel Fired Emergency Generator	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	State of the art combustion design	1.18	LB/H	HOURLY	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	ULSD	44	H/YR		use of ULSD a clean burning fuel, and limited hours of operation	0.26	LB/H		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	PROPANE-FIRED EMERGENCY GENERATORS 150 kW (2)	DIESEL FUEL	0			Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.4	G/KW	PER HR	1	T/YR	12 MO ROLLING TOTAL	0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	Emergency Generator - ESDG14	PROPANE	0				0.19	G/HP-H	PER HR	0			0		
WV-0027	INWOOD	9/15/2017		ULSD	900	bhp	Used to supply power to the facility in the event of power loss	ULSD	0.2	G/HP-HR		0			0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	Caterpillar 3215C Black Start Generator (1)	ULSD	1500	KW-e		Good Combustion Practices	0.03	G/HP-H	INSTANTANEOUS	0			0		
AK-0073	INTERNATIONAL STATION POWER PLANT	12/20/2010	Fuel Combustion	Diesel	1500	kW-e	EU 13 Black Start Engine	Black Start diesel fired engine EU 13 shall be equipped with turbo charging and after cooling. The turbo charger reduces NOx emissions by boosting the pressure and temperature of the air entering the engine allowing more fuel to be added to increase power output. This translates into higher combustion efficiency and reduced emissions.	0.03	G/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Emergency Camp Generators	Ultra Low Sulfur Diesel	2695	hp	Three 2,695 hp ULSD-fired Standby Camp Generator Engines.		0.15	G/HP-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Bulk Tank Generator Engines	Ultra Low Sulfur Diesel	891	hp	Two ULSD-fired 891 hp Bulk Tank Storage Area Generator Engines		0.15	G/HP-H		0			0		

Table D-D-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	EMERGENCY IC ENGINE	DIESEL	2683	HP	UNIT IS 2000 KW.	USE ULTRA LOW SULFUR FUEL	0.2	G/KW-H		0.15	G/HP-H		0		
FL-0310	SHADY HILLS GENERATING STATION	1/12/2009	2.5 MW EMERGENCY GENERATOR	ULTRA LOW S OIL	2.5	MW	MAXIMUM HOURS OF OPERATION: 500 HRS/YR	FIRING ULSO WITH A MAXIMUM SULFUR CONTENT OF 0.0015% BY WEIGHT AND A MAXIMUM HOURS OF OPERATION OF 500 HOUR/YR.	0.4	G/HP-H	NA /RECORDKEEPING	0			0		
FL-0310	SHADY HILLS GENERATING STATION	1/12/2009	2.5 MW EMERGENCY GENERATOR	ULTRA LOW S OIL	2.5	MW	MAXIMUM HOURS OF OPERATION: 500 HRS/YR	FIRING ULSO WITH A MAXIMUM SULFUR CONTENT OF 0.0015% BY WEIGHT AND A MAXIMUM HOURS OF OPERATION OF 500 HOUR/YR.	0.4	G/HP-H	NA /RECORDKEEPING	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - Development Driller 1	Diesel	2229	hp		Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.03	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - C.R. Luigs	diesel	2064	hp	Caterpillar D3516A 1998	Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.02	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Main Propulsion Generator Diesel Engines	Diesel	9910	hp	Four 1998 Wartsila 18V32LNE 9910 hp and Two 1998 Wartsila 12V32LNE 6610 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.24	G/KW-H	ROLLING 24 HOUR AVERAGE	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	EMERGENCY GENERATOR	DIESEL	1500	KW	THREE 1,500 KW EMERGENCY GENERATORS ARE BEING INSTALLED AS A PART OF THIS PROJECT. PERMITS 07-A-542-P, 07-A-576-P AND 07-A-577-P. THE PROJECT ALSO INCLUDES THE INSTALLATION OF ONE 2,00 KW EMERGENCY GENERATOR. PERMIT 07-A-578-P. ALL FOUR EMERGENCY GENERATORS HAVE THE SAME SHORT TERM BACT LIMITS AND DIFFERENT TON/YR BACT LIMITS.	NO SPECIFIC CONTROL TECHNOLOGY IS SPECIFED. ENGINE IS REQUIRED TO MEET LIMITS ESTABLISHED AS BACT (TIER 2 NONROAD). THIS COULD REQUIRE ANY NUMBER OF CONTROL TECHNOLOGIES AND OPERATIONAL REQ. TO MEET THE BACT STANDARD.	0.15	G/HP-H	AVERAGE OF 3 TEST RUNS	0.17	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	EMERGENCY GENERATOR	DIESEL	700	KW			0.2	G/KW-H	AVERAGE OF THREE STACK TEST RUNS	0.08	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	0.2	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0.22	T/YR	ROLLING 12 MONTH TOTAL	0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	0.2	G/KW-H	AVERAGE OF THREE (3) STACK TEST RUNS	0.02	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	2 MW EMERGENCY GENERATOR, SRC25	ASTM #1, 2, DIESEL	2000	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	ULSD FUEL, GOOD COMBUSTION PRACTICES, EPA CERTIFIED PER NSPS IIII	0		SEE NOTE	0			0		
ID-0017	POWER COUNTY ADVANCED ENERGY CENTER	2/10/2009	500 KW EMERGENCY GENERATOR, FIRE PUMP, SRC26	ASTM #1, 2, DIESEL	500	KW	LIMITED TO 100 H/YR FOR ROUTINE TESTING AND MAINTENANCE	ULSD FUEL, EPA CERTIFICATION PER NSPS IIII	0		SEE NOTE	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Emergency Generator	distillate fuel oil	3755	HP		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-H		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEALRY	0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	TWO (2) EMERGENCY GENERATORS	DIESEL	1341	HORSEPOWER, EACH	IDENTIFIED AS EU-009A AND EU-009B	USE OF LOW-S DIESEL AND LIMITED HOURS OF NON-EMERGENCY OPERATION	15	PPM SULFUR		0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY GENERATOR	NO. 2 FUEL OIL	4690	B-HP	ANNUAL HOURS OF OPERATION NOT TO EXCEED 200 HOURS.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		
LA-0211	GARYVILLE REFINERY	12/27/2006	EMERGENCY GENERATORS (DOCK & TANK FARM) (21-08 & 22-08)	DIESEL	1341	HP	21-08: 1341 HP 22-08: 671 HP GENERATORS PERMITTED FOR 182 H/YR EA.	USE OF DIESEL WITH A SULFUR CONTENT OF 15 PPMV OR LESS	0.0022	LB/HP-H	ANNUAL AVERAGE	0			0		

Table D-D-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0219	CREOLE TRAIL LNG IMPORT TERMINAL	8/15/2007	DIESEL EMERGENCY GENERATOR NOS. 1 & 2	DIESEL	2168	HP EACH		GOOD COMBUSTION PRACTICES, GOOD ENGINE DESIGN, AND USE OF LOW SULFUR AND LOW ASH DIESEL	0.69	LB/H	HOURLY MAXIMUM	0.17	T/YR	ANNUAL MAXIMUM	0		
LA-0231	LAKE CHARLES GASIFICATION FACILITY	6/22/2009	EMERGENCY DIESEL POWER GENERATOR ENGINES (2)	DIESEL	1341	HP EACH		COMPLY WITH 40 CFR 60 SUBPART IIII	0.06	LB/H	MAXIMUM (EACH)	0.02	G/HP-H		0		
LA-0251	FLOPAM INC. FACILITY	4/26/2011	Large Generator Engines (17 units)	Diesel	0		11 units: 591 hp 6 units: 1175 hp		0.01	LB/H		0.2	G/KW-H				
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY DIESEL GENERATOR	DIESEL	1250	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	0.15	G/HP-H	ANNUAL AVERAGE	0			0.15	G/HP-H	ANNUAL AVERAGE
*LA-0272	AMMONIA PRODUCTION FACILITY	3/27/2013	EMERGENCY DIESEL GENERATOR (2205-B)	DIESEL	1200	HP	OPERATING TIME OF GENERATOR IS LIMITED TO 500 HR/YR.	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0			0			0.2	G/KW-HR	
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Emergency Engine/Generator	ULSD	7.4	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		0.15	G/HP-H	1 HR BLOCK AVERAGE	0.36	LB/H	1 HR BLOCK AVERAGE	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY GENERATOR 1	ULTRA LOW SULFU DIESEL	2250	KW	40 CFR 60 SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H		0.23	G/KW-H		0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW SULFUR DIESEL	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H		0.23	G/KW-H		0		
*MD-0043	PERRYMAN GENERATING STATION	7/1/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1300	HP	40 CFR 60 SUBPART IIII, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND EXCLUSIVE USE OF ULSD	0.17	G/HP-H	CONDENSIBLE + FILTERABLE	0.15	G/HP-H	FILTERABLE	0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1550	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.17	G/HP-H		0.23	G/KW-H		0		
MI-0389	KARN WEADOCK GENERATING COMPLEX	12/29/2009	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	2000	KW	2980 HP. OPERATIONAL LIMITS: 1 HR/DAY, 500 HRS/YR FOR PM2.5 NAAQS.	ENGINE DESIGN AND OPERATION. 15 PPM SULFUR FUEL.	0.0573	LB/MMBTU	TEST METHOD	0			0		
*MI-0400	WOLVERINE POWER	6/29/2011	Turbine generator (EUBLACKSTART)	Diesel	540	MMBTU/H	This is a turbine generator identified in the permit as EUBLACKSTART. It has a throughput capacity of 540MMBTU/HR which equates to 102 MW. The maximum operation was based on 500 hours per year.		0.03	LB/MMBTU	TEST PROTOCOL	16.2	LB/H	TEST PROTOCOL	0		
*MI-0400	WOLVERINE POWER	6/29/2011	Emergency generator	Diesel	4000	HP	Maximum operation was based on 500 hours per year.		1.76	LB/H	TEST PROTOCOL; BACT	0			0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	EMERGENCY GENERATOR	NO. 2	1750	KW	THIS IS A 1750 KW GENERATOR THAT WAS INSTALLED IN PLACE OF THE 670 HP GENERATOR (LISTED AS A ‘‘IC ENGINE, LARGE, FUEL OIL) IN MN-0053		0.0004	LB/HP-H	3 HOUR	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Emergency Generator	Ultra Low Sulfur distillate Diesel	100	H/YR	The Emergency Generator will use Ultra Low Sulfur distillate (ULSD) Diesel with 15 ppm % Sulfur by weight only	Use of ULSD oil	0.13	LB/H		0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Emergency Generator	ULSD	200	H/YR			0.66	LB/H		0			0		
NV-0049	HARRAH'S OPERATING COMPANY, INC.	8/20/2009	SMALL INTERNAL COMBUSTION ENGINE (<600 HP) - UNIT FL12	DIESEL OIL	536	HP	UNIT FL12 IS A DETROIT DIESEL GENERATOR AT FLAMINGO LAS VEGAS. LIKE ALL THE OTHER DIESEL GENERATORS, THE UNIT IS SUBJECT TO THE LIMIT OF MONTHLY AND ANNUAL OPERATING TIMES FOR 2 HOURS PER MONTH AND 36 HOURS PER YEAR RESPECTIVELY. EMISSION FACTORS LISTED IN AP-42 ARE USED TO CALCULATE THE EMISSION LIMITS FOR EACH AND EVERY DIESEL GENERATOR IN THIS MAJOR STATIONARY SOURCE, AND ARE NOT REPEATED FURTHER FOR REPORTING THE BACT DETERMINATIONS.	THE UNIT IS EQUIPPED WITH A TURBOCHARGER.	0.0022	LB/HP-H		1.18	LB/H		0.0022	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	DIESEL EMERGENCY GENERATORS - UNITS CC009 THRU CC015 AT CITY CENTER	DIESEL OIL	3622	HP	THE SEVEN UNITS ARE IDENTICAL CATERPILLAR DIESEL EMERGENCY GENERATORS, EACH OF WHICH IS RATED AT 3,622 HORSEPOWER (HP). OPERATION OF EACH OF THE UNITS IS LIMITED TO ONE HOUR/DAY AND TWELVE HOURS/YEAR FOR TESTING AND MAINTENANCE PRUPOSES ONLY. THE EMISSION LIMITS ARE BASED ON THE ATC PERMIT FOR MODIFICATION #8 DATED MARCH 30, 2006.	TURBOCHARGER AND GOOD COMBUSTION PRACTICES	0.0001	LB/HP-H		0.4	LB/H		0.0001	LB/HP-H	
NV-0050	MGM MIRAGE	11/30/2009	EMERGENCY GENERATORS - UNITS LX024 AND LX025 AT LUXOR	DIESEL OIL	2206	HP	THE TWO UNITS ARE IDENTICAL CATERPILLAR GENERATORS MODEL 3512C. EACH UNIT HAS A FOUR-STROKE COMPRESSION-IGNITION ENGINE RATED AT 2,206 HORSE POWER (HP). THE EMISSION LIMITS REPORTED HEREIN ARE BASED ON THE ATC PERMIT FOR MODIFICATION #10 DATED SEPTEMBER 20, 2006. EACH UNIT IS ALLOWED TO OPERATE UP TO ONE HOUR PER DAY AND FIFTY TWO HOURS PER YEAR.	TURBOCHARGER AND GOOD COMBUSTION PRACTICES	0.0001	LB/HP-H		0.2	LB/H		0.0001	LB/HP-H	
NY-0101	CORNELL COMBINED HEAT & POWER PROJECT	3/12/2008	EMERGENCY DIESEL GENERATORS (2)	LOW SULFUR DIESEL	1000	KW	TWO (2) GENERATORS LIMITED TO 800 HOURS FOR BOTH ANNUALLY	ULTRA LOW SULFUR DIESEL AT 15 PPM S	0.19	LB/H	1 HOUR AVG	20	% OPACITY		0.09	G/HP-H	
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	EMERGENCY GENERATOR	DIESEL FUEL OIL	2922	HP	2922 MAXIMUM HORSE POWER SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN	0.87	LB/H		0.22	T/YR	PER ROLLING 12-MONTH PERIOD	0.2	G/KW-H	FROM PART 89, SECTION 112
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency generator	diesel	2250	KW	Emergency diesel fired generator restricted to 500 hours of operation per rolling 12-months.	Purchased certified to the standards in NSPS Subpart IIII	0.99	LB/H		0.25	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES

Table D-D-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
OK-0118	HUGO GENERATING STA	2/9/2007	EMERGENCY DIESEL INTERNAL COMBUSTION ENGINES					USE OF LOW SULFUR NO.2 FUEL OIL COMBINED WITH GOOD COMBUSTION PRACTICES AND LIMITED ANNUAL OPERATION	0		SEE NOTE	0			0		
OK-0128	MID AMERICAN STEEL ROLLING MILL	9/8/2008	Emergency Generator	No. 2 diesel	1200	HP			0.84	LB/H		0.21	T/YR		0.32	G/HP-H	
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY DIESEL GENERATOR (2200 HP)	LOW SULFUR DIESEL	2200	HP			0.72	LB/H		0.2	G/KW-H	NSPS	0		
PA-0271	MERCK & CO. WESTPOINT	2/23/2007	MOBILE EMERGENCY GENERATOR	DIESEL					0.16	G/HP-H		0.2	T/YR		0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Emergency Generator	Diesel	0		The emergency generator will be restricted to operate not more than 100 hr/yr.		0.02	G/HP-H		0.06	LB/H		0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)		0.15	G/HP-H		0.22	LB/H		0		
SC-0114	GP ALLENDALE LP	11/25/2008	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES.		0.2	LB/H		0.05	T/YR		0.06	G/HP-H	
SC-0115	GP CLARENDON LP	2/10/2009	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES. THE DIESEL EMERGENCY GENERATOR IS LIMITED TO 500 HOURS OF OPERATION PER YEAR.	TUNE-UPS AND INSPECTIONS WILL BE PERFORMED AS OUTLINED IN THE GOOD MANAGEMENT PRACTICE PLAN.	0.2	LB/H		0.05	T/YR		0.06	G/HP-H	
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Emergency Diesel Generator	Diesel	1500	hp	The emergency generator (EPN 17-1-4) at the site is diesel fired and rated at 1500 horsepower (hp). Lowest Achievable Emission Rates (LAER) for nitrogen oxides (NOx) is the use of a 40 Code Federal Rules (CFR) Part 89 Tier 2 engine and limited hours of operation. Emissions from the engine shall not exceed 0.0218 grams per horsepower-hour (g/hp-hr) of nitrogen oxides (NOx). The engine is limited to 52 hours per year of non-emergency operation. Emissions from the engine shall not exceed 0.01256 g/hp hr of carbon monoxide (CO). The fuel for the engine is limited to 15 parts per million sulfur by weight (ultra-low sulfur diesel). The engine is limited to 52 hours per year of non-emergency operation. Also applicable: 40CFR60 IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engine and 40CFR63 ZZZZ, National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines.	Minimized hours of operations Tier II engine	0.15	LB/H		0.01	T/YR		0		

Table D-D-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Black Start and Emergency Internal Cumbustion Engines	Diesel	1500	kWe	Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.	Clean Fuel and Good Combustion Practices	0.25	G/KW-HR	3-HOUR AVERAGE	0			0		
*AL-0318	TALLADEGA SAWMILL	12/18/2017	250 Hp Emergency CI, Diesel-fired RICE	Diesel	0		Emergency Only		0			0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	3/23/2017	EMERGENCY GENERATORS (EU014A AND EU-014B)	DISTILLATE OIL	3600	HP EACH		GOOD COMBUSTION PRACTICES	0.15	G/HP-H EACH	3 HOUR AVERAGE	500	H/YR EACH		0		
LA-0292	HOLBROOK COMPRESSOR STATION	1/22/2016	Emergency Generators No. 1 & No. 2	Diesel	1341	HP		Use of a certified engine, low sulfur diesel, and limiting non-emergency use to no more than 100 hours per year	0.44	LB/HR	HOURLY MAXIMUM	0.02	TPY	ANNUAL MAXIMUM	0.15	G/BHP-HR	
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Diesel Engines (Emergency)	Diesel	4023	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	Diesel	1474	horsepower	Operating hours limit: 100 hr/yr.	Compliance with NSPS Subpart IIII	0.08	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Generator 1	Diesel	2584	HP		Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	0.86	LB/H	HOURLY MAXIMUM	0.21	T/YR	ANNUAL MAXIMUM	0		
LA-0316	CAMERON LNG FACILITY	2/17/2017	emergency generator engines (6 units)	diesel	3353	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Emergency Generator Engines (4 units)	Diesel	0		I-GDE-1201, II-GDE-1201 = 2346 hp I-GDE-1202 = 755 hp I-GDE-1203 = 1193 hp	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1600 kW (EUEMRGRICE in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	1.41	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMENGINE (Diesel fuel emergency engine)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices.	1.58	LB/H	HOURLY	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.57	LB/H	HOURLY	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.66	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.22	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (North Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.52	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.52	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUEMENGINE: Emergency engine	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	State of the art combustion design.	1.18	LB/H	HOURLY	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Diesel Fired Emergency Generator	ULSD	44	H/YR		use of ULSD a clean burning fuel, and limited hours of operation	0.26	LB/H		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	DIESEL FUEL	0			Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.4	G/KR	PER HR	0.7	T/YR	12 MO ROLLING TOTAL	0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	PROPANE-FIRED EMERGENCY GENERATORS 150 kW (2)	PROPANE	0			Low sulfur fuel and good combustion practices	0.019	G/HP-H	PER HR	0			0		
AK-0071	INTERNATIONAL STATION POWER PLANT	12/20/2010	Caterpillar 3215C Black Start Generator (1)	ULSD	1500	KW-e		Good Combustion Practices	0.03	G/HP-H	INSTANTANEOUS	0			0		
AK-0076	POINT THOMSON PRODUCTION FACILITY	8/20/2012	Combustion of Diesel by ICEs	ULSD	1750	kW	Diesel-fired generators		0.2	G/KW-H		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Emergency Camp Generators	Ultra Low Sulfur Diesel	2695	hp	Three 2,695 hp ULSD-fired Standby Camp Generator Engines.		0.15	G/HP-H		0			0		

Table D-D-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Bulk Tank Generator Engines	Ultra Low Sulfur Diesel	891	hp	Two ULSD-fired 891 hp Bulk Tank Storage Area Generator Engines		0.15	G/HP-H		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY ENGINE	DIESEL	2000	KW	2000 KW (2,683 hp) engine	OPERATIONAL RESTRICTION OF 50 HR/YR; USE OF ULTRA LOW SULFUR FUEL NOT TO EXCEED 15 PPMVD	0.2	G/KW-H		0.15	G/HP-H		0		
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	EMERGENCY IC ENGINE	DIESEL	2683	HP	UNIT IS 2000 KW.	USE ULTRA LOW SULFUR FUEL	0.2	G/KW-H		0.15	G/HP-H		0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - Development Driller 1	Diesel	2229	hp		Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.03	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - C.R. Luigs	diesel	2064	hp	Caterpillar D3516A 1998	Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	0.02	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Main Propulsion Generator Diesel Engines	Diesel	9910	hp	Four 1998 Wartsila 18V32LNE 9910 hp and Two 1998 Wartsila 12V32LNE 6610 hp	Use of good combustion practices based on the most recent manufacturer's specifications issued for engines and with turbocharger, aftercooler, and high injection pressure	0.24	G/KW-H	ROLLING 24 HOUR AVERAGE	0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	0.2	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0.22	T/YR	ROLLING 12 MONTH TOTAL	0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	0.2	G/KW-H	AVERAGE OF THREE (3) STACK TEST RUNS	0.02	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Emergency Generator	distillate fuel oil	3755	HP		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-H		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/HP-H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	TWO (2) EMERGENCY GENERATORS	DIESEL	1341	HORSEPOWER, EACH	IDENTIFIED AS EU-009A AND EU-009B	USE OF LOW-S DIESEL	15	PPM SULFUR		0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY GENERATOR	NO. 2 FUEL OIL	4690	B-HP	ANNUAL HOURS OF OPERATION NOT TO EXCEED 200 HOURS.	GOOD COMBUSTION PRACTICES	0.15	LB/HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/HP-H	3-HR AVERAGE	0			0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY DIESEL GENERATOR	DIESEL	1250	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	0.15	G/HP-H	ANNUAL AVERAGE	0			0.15	G/HP-H	ANNUAL AVERAGE
*LA-0272	AMMONIA PRODUCTION FACILITY	3/27/2013	EMERGENCY DIESEL GENERATOR (2205-B)	DIESEL	1200	HP	OPERATING TIME OF GENERATOR IS LIMITED TO 500 HR/YR.	Compliance with 40 CFR 60 Subpart IIII; good combustion practices.	0			0			0.2	G/KW-HR	
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Emergency Engine/Generator	ULSD	7.4	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		0.15	G/HP-H	1 HR BLOCK AVERAGE	0.36	LB/H	1 HR BLOCK AVERAGE	0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY GENERATOR 1	ULTRA LOW SULFU DIESEL	2250	KW	40 CFR 60 SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H		0.23	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	EMERGENCY GENERATOR	ULTRA LOW SULFUR DIESEL	1550	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.17	G/HP-H		0.23	G/KW-H		0		
*MI-0400	WOLVERINE POWER	6/29/2011	Turbine generator (EUBLACKSTART)	Diesel	540	MMBTU/H	This is a turbine generator identified in the permit as EUBLACKSTART. It has a throughput capacity of 540MMBTU/HR which equates to 102 MW. The maximum operation was based on 500 hours per year.		16.2	LB/H	TEST PROTOCOL	0			0		
*MI-0400	WOLVERINE POWER	6/29/2011	Emergency generator	Diesel	4000	HP	Maximum operation was based on 500 hours per year.		1.76	LB/H	TEST PROTOCOL; BACT	0			0		
NJ-0079	WOODBRIDGE ENERGY CENTER	7/25/2012	Emergency Generator	Ultra Low Sulfur distillate Diesel	100	H/YR	The Emergency Generator will use Ultra Low Sulfur distillate (ULSD) Diesel with 15 ppm % Sulfur by weight only	Use of ULSD oil	0.13	LB/H		0			0		
NJ-0080	HESS NEWARK ENERGY CENTER	11/1/2012	Emergency Generator	ULSD	200	H/YR		use of ULSD, a low sulfur clean fuel	0			0			0		

Table D-D-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
NY-0101	CORNELL COMBINED HEAT & POWER PROJECT	3/12/2008	EMERGENCY DIESEL GENERATORS (2)	LOW SULFUR DIESEL	1000	KW	TWO (2) GENERATORS LIMITED TO 800 HOURS FOR BOTH ANNUALLY	ULTRA LOW SULFUR DIESEL AT 15 PPM S	0.19	LB/H	1 HOUR AVG	20	% OPACITY		0.086	G/KW-H	
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Emergency Generator	Diesel	0		The emergency generator will be restricted to operate not more than 100 hr/yr.		0.02	G/HP-H		0.06	LB/H		0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)		0.15	G/HP-H		0.22	LB/H		0		
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Emergency Diesel Generator	Diesel	1500	hp	The emergency generator (EPN 17-1-4) at the site is diesel fired and rated at 1500 horsepower (hp). Lowest Achievable Emission Rates (LAER) for nitrogen oxides (NOx) is the use of a 40 Code Federal Rules (CFR) Part 89 Tier 2 engine and limited hours of operation. Emissions from the engine shall not exceed 0.0218 grams per horsepower-hour (g/hp-hr) of nitrogen oxides (NOx). The engine is limited to 52 hours per year of non-emergency operation. Emissions from the engine shall not exceed 0.01256 g/hp hr of carbon monoxide (CO). The fuel for the engine is limited to 15 parts per million sulfur by weight (ultra-low sulfur diesel). The engine is limited to 52 hours per year of non-emergency operation. Also applicable: 40CFR60 IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engine and 40CFR63 ZZZZ, National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines.	Minimized hours of operations Tier II engine	0.15	LB/H		0.01	T/YR		0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Emergency Generator	Diesel	2015.7	HP	Nominal 1,500 kW. Limited to 100 hours/year.		0			0			0.15	G/HP-HR	

Table D-D-7
Sulfur Dioxide (SO_2) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	Three 3300-kW ULSD emergency generators	ULSD	0		BACT limits equal to NSPS Subpart IIII limits. Will use IIII certified engine.	Use of ULSD	0.0015	% S IN ULSD		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	Two 3300 kW emergency generators	ULSD	0		Two ULSD-fueled emergency engines. BACT = Subpart IIII limits.	Clean fuel	15	PPM S IN FUEL		0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Diesel Engines (Emergency)	Diesel	4023	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMENGINE (Diesel fuel emergency engine)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	FUEL SUPPLIER CERTIFICATION RECORDS	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	FUEL SUP. CERT. RECORDS OR SAMPLE TEST	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (North Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	FUEL SUPPLIER CERTIF. RECORDS	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (kW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	FUEL SUPPLIER RECORDS OR SMPLE TEST DATA	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	DIESEL FUEL	0			Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.0015	LB/MMBTU		0			0		
AL-0251	HILLABEE ENERGY CENTER	9/24/2008	EMERGENCY GENERATOR	DIESEL	600	EKW		LOW SULFUR DIESEL FUEL	0			0			0		
FL-0310	SHADY HILLS GENERATING STATION	1/12/2009	2.5 MW EMERGENCY GENERATOR	ULTRA LOW S OIL	2.5	MW	MAXIMUM HOURS OF OPERATION: 500 HRS/YR	FIRING ULTRA LOW SULFUR OIL WITH A MAXIMUM HOURS OF OPERATION OF 500 HRS/YR.	0.0015	% SULFUR	NA/RECORDKEEPING	0			0		
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	2000 KW Emergency Equipment		0		One emergency generator rated at 2,000 kW (2,682 HP) will be installed to provide backup electrical power in the event of a power outage at the HEF facility. The generator will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation during emergencies. The unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2006 or later.	See Pollutant Notes.	0.0015	% SULFUR		0			0		
FL-0332	HIGHLANDS BIOREFINERY AND COGENERATION PLANT	9/23/2011	600 HP Emergency Equipment	Ultra-Low Sulfur Oil	0		One 600 hp diesel fire pump engine will be installed to provide firewater during power outages. This unit will fire ULSD fuel oil or natural gas and will be limited to 500 hours per year of operation. This unit will be operated no more than 100 hours per year for testing and maintenance purposes per 40 CFR 60, Subpart IIII. The engine will be designed to meet US EPAâ€™s emission standards listed in 40 CFR Part 60 Subpart IIII for model year 2009 or later.	See Pollutant Notes.	0.0015	% SULFUR		0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Four 3100 kW black start emergency generators	ULSD	2.32	MMBtu/hr (HHV) per engine	Fired with ULSD	ULSD required	15	PPM SULFUR IN FUEL		0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Emergency fire pump engine (300 HP)	USLD	29	MMBtu/hr	Emergency engine. BACT = NSPS IIII.	Good combustion practice and ULSD	15	PPM SULFUR IN FUEL		0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	EMERGENCY GENERATOR	DIESEL	1500	KW	THREE 1,500 KW EMERGENCY GENERATORS ARE BEING INSTALLED AS A PART OF THIS PROJECT. PERMITS 07-A-542-P, 07-A-576-P AND 07-A-577-P. THE PROJECT ALSO INCLUDES THE INSTALLATION OF ONE 2,00 KW EMERGENCY GENERATOR. PERMIT 07-A-578-P. ALL FOUR EMERGENCY GENERATORS HAVE THE SAME SHORT TERM BACT LIMITS AND DIFFERENT TON/YR BACT LIMITS.	BURN LOW-SULFUR DIESEL FUEL. 0.05% BY WEIGHT OR LESS NOT TO EXCEED THE NSPS REQUIREMENT.	0.17	G/B-HP-H	AVERAGE OF 3 TEST RUNS	360	T/YR	12-MONTH ROLLING TOTAL	0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	EMERGENCY GENERATOR	DIESEL	700	KW		FUEL SULFUR LIMIT	0.23	G/KW-HR	AVERAGE OF THREE STACK TEST RUNS	0.09	T/YR	12-MONTH ROLLING TOTAL	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	ULTRA LOW SULFUR DISTILLATE AND USAGE LIMITS	0.012	LB/H		500	HOURS OF OPERATION	YEARLY	0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	ULTRA LOW SULFUR DISTILLATE AND UASGE LIMITS	0.024	LB/H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	TWO (2) EMERGENCY GENERATORS	DIESEL	1341	HORSEPOWER, EACH	IDENTIFIED AS EU-009A AND EU-009B	USE OF LOW-S DIESEL AND LIMITED HOURS OF NON-EMERGENCY OPERATION	15	PPM SULFUR IN FUEL		0			0		
KS-0028	NEARMAN CREEK POWER STATION	10/18/2005	EMERGENCY BLACK START GENERATOR	NO. 2 FUEL OIL	24.1	MMBTU/H	THE CUMMINS POWER GENERATION DIESEL GENERATOR (MODEL NO.: QSK78-G6) SHALL ONLY COMBUST NO. 2 FUEL OIL WITH VERY LOW SULFUR CONTENT AS THE PRIMARY FUEL TYPE. THERE WILL BE NO SECONDARY FUEL FOR BACKUP. [NOTE: THE INCREASE IN SIZE OF THE EMERGENCY BLACK START GENERATOR CAUSED THE SIGNIFICANT MODIFICATION. IN THE ORIGINAL PERMIT, OCTOBER 21, 2004, THE EMERGENCY BLACK START GENERATOR WAS A CATERPILLAR DIESEL GENERATOR (MODEL NO.: 3508 DITA) 900 KW. IT WAS CHANGED TO A CUMMINS POWER GENERATION DIESEL GENERATOR (MODEL NO.: QSK78-G6) 2.8 MW.]	GOOD COMBUSTION CONTROL	1.2	LB/H	FULL LOAD OPERATIONS	0			0		
LA-0211	GARYVILLE REFINERY	12/27/2006	EMERGENCY GENERATORS (DOCK & TANK FARM) (21-08 & 22-08)	DIESEL	1341	HP	21-08: 1341 HP 22-08: 671 HP GENERATORS PERMITTED FOR 182 H/YR EA.		0.02	LB/H		0.0068	G/HP-H		0		
LA-0231	LAKE CHARLES GASIFICATION FACILITY	6/22/2009	EMERGENCY DIESEL POWER GENERATOR ENGINES (2)	DIESEL	1341	HP EACH		COMPLY WITH 40 CFR 60 SUBPART IIII	0.01	LB/H	MAXIMUM (EACH)	0.0034	G/HP-H		0		

Table D-D-7
Sulfur Dioxide (SO_2) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Emergency Engine/Generator	ULSD	7.4	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		0.011	LB/H	1 HR BLOCK AVG INCLUDING SS	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY GENERATOR 1	ULTRA LOW SULFU DIESEL	2250	KW	40 CFR 60 SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE OF ULTRA-LOW DIESEL SULFUR FUEL, LIMITED HOURS OF OPERATION AND DESIGNED TO MEET NSPS SUBPART IIII LIMITS	0.006	G/B-HP-H	3-HOUR BLOCK AVERAGE	0			0		
*MI-0400	WOLVERINE POWER	6/29/2011	Turbine generator (EUBLACKSTART)	Diesel	540	MMBTU/H	This is a turbine generator identified in the permit as EUBLACKSTART. It has a throughput capacity of 540MMBTU/HR which equates to 102 MW. The maximum operation was based on 500 hours per year.		0.011	LB/MMBTU	TEST PROTOCOL	0			0		
MN-0070	MINNESOTA STEEL INDUSTRIES, LLC	9/7/2007	EMERGENCY POWER GENERATION - DIESEL	DIESEL			(>500 HP, LARGE IC)	LIMITED HOURS, LIMITED SULFUR IN FUEL	0.05	% SULFUR	SULFUR BY WEIGHT IN FUEL	0			0		
MN-0071	FAIRBAULT ENERGY PARK	6/5/2007	EMERGENCY GENERATOR	NO. 2	1750	KW	THIS IS A 1750 KW GENERATOR THAT WAS INSTALLED IN PLACE OF THE 670 HP GENERATOR (LISTED AS A ‘‘IC ENGINE, LARGE, FUEL OIL) IN MN-0053		0.0004	LB/HP-H	3 HOUR AVERAGE	0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency generator	diesel	2250	KW	Emergency diesel fired generator restricted to 500 hours of operation per rolling 12-months.		0.03	LB/H		0.008	T/YR		0		
OK-0118	HUGO GENERATING STA	2/9/2007	EMERGENCY DIESEL INTERNAL COMBUSTION ENGINES					USE OF LOW SULFUR NO.2 FUEL OIL COMBINED WITH GOOD COMBUSTION PRACTICES AND LIMITED ANNUAL OPERATION	0		SEE NOTE	0			0		
OK-0128	MID AMERICAN STEEL ROLLING MILL	9/8/2008	Emergency Generator	No. 2 diesel	1200	HP		500 hours per year, 0.05% sulfur diesel fuel	0.49	LB/H		0.05	% SULFUR		0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY DIESEL GENERATOR (2200 HP)	LOW SULFUR DIESEL	2200	HP		LOW SULFUR DIESEL 0.05%S	0.89	LB/H		0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)		0.006	LB/H		0			0		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	EMERGENCY GENERATORS 1 THRU 8	DIESEL	757	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF EIGHT (8) IDENTICAL EMERGENCY GENERATORS. THIS PROCESS AND POLLUTANT INFORMATION IS FOR ONE SINGLE EMERGENCT GENERATOR.	USE OF LOW SULFUR FUEL DIESEL, SULFUR CONTENT LESS THAN 0.0015 PERCENT. OPERATING HOURS LESS THAN 100 HOURS PER YEAR FOR MAINTENACE AND TESTING.	0			0			0		
SC-0114	GP ALLENDALE LP	11/25/2008	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES.		5.4	LB/H		1.35	T/YR		0		
SC-0115	GP CLARENDON LP	2/10/2009	DIESEL EMERGENCY GENERATOR	DIESEL	1400	HP	THE EMERGENCY GENERATOR IS OPERATED INTERMITTENTLY FOR TESTING OR EMERGENCY PURPOSES. THE DIESEL EMERGENCY GENERATOR IS LIMITED TO 500 HOURS OF OPERATION PER YEAR.	TUNE-UPS AND INSPECTIONS WILL BE PERFORMED AS OUTLINED IN THE GOOD MANAGEMENT PRACTICE PLAN.	5.4	LB/H		1.35	T/YR		0		
*SC-0132	ARGOS HARLEYVILLE PLANT	12/14/2007	EMERGENCY GENERATOR	DIESEL	1000	KW			0			0			0		
*TX-0671	PROJECT JUMBO	12/1/2014	Engines	ultra low sulfur diesel fuel	0		Two mergency diesel fired generators proposed. Each engine will be 4000 kW. Ultra low sulfur fuel is burned in the engines to meet the sulfur requirement of 15 ppm in 40CFR80.510(b). Each emergency engine is being permitted for maintenance and testing for maximum 100 hrs/yr. They are not being permitted for the actual emergency emissions	Ultra low sulfur fuel engines burn will meet the sulfur requirement of 15 ppm in 40CFR80.510(b)	0.0649	G/KW-HR		0.01	T/YR		0		
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Emergency Diesel Generator	Diesel	1500	hp	The emergency generator (EPN 17-1-4) at the site is diesel fired and rated at 1500 horsepower (hp). Lowest Achievable Emission Rates (LAER) for nitrogen oxides (NOx) is the use of a 40 Code Federal Rules (CFR) Part 89 Tier 2 engine and limited hours of operation. Emissions from the engine shall not exceed 0.0218 grams per horsepower-hour (g/hp-hr) of nitrogen oxides (NOx). The engine is limited to 52 hours per year of non-emergency operation. Emissions from the engine shall not exceed 0.01256 g/hp hr of carbon monoxide (CO). The fuel for the engine is limited to 15 parts per million sulfur by weight (ultra-low sulfur diesel). The engine is limited to 52 hours per year of non-emergency operation. Also applicable: 40CFR60 IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engine and 40CFR63 ZZZZ, National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines.	Low sulfur fuel 15 ppmw	0.61	LB/H		0.02	T/YR		0		
WA-0328	BP CHERRY POINT COGENERATION PROJECT	1/11/2005	EMERGENCY GENERATOR	DIESEL FUEL	1.5	MW		FUEL MUST SATISFY REQUIREMENTS OF ON-ROAD DIESEL SPECIFICATIONS AT TIME OF FUEL PURCHASE	0			0			0		*SEE NOTES
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Diesel Emergency Generator (EP15)	Ultra Low Sulfur Diesel	839	hp		Ultra Low Sulfur Diesel	0			0			0		

Table D-D-8
Sulfuric Acid Mist (H_2SO_4) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUEMENGINE: Emergency engine	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	Good combustion practices, low sulfur fuel.	15	PPM	FUEL SUPPLIER RECORDS OR TEST DATA	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	DIESEL FUEL	3000 kW			Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.0001	LB/MMBTU		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	PROPANE-FIRED EMERGENCY GENERATORS 150 kW (2)	PROPANE	3000 kW			use of low sulfur fuel	0.0001	LB/MMBTU		0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Emergency Engine/Generator	ULSD	750 KW	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight	Use of low sulfur fuel	0.0009	LB/H	1 HR BLOCK AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY GENERATOR 1	ULTRA LOW SULFU DIESEL	2250	KW	40 CFR 60 SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE OF ULTRA-LOW DIESEL SULFUR FUEL, LIMITED HOURS OF OPERATION AND DESIGNED TO MEET SUBPART IIII LIMITS	0.006	G/HP-H	3-HOUR BLOCK AVERAGE	0			0		
NY-0101	CORNELL COMBINED HEAT & POWER PROJECT	3/12/2008	EMERGENCY DIESEL GENERATORS (2)	LOW SULFUR DIESEL	1000	KW	TWO (2) GENERATORS LIMITED TO 800 HOURS FOR BOTH ANNUALLY	ULTRA LOW SULFUR DIESEL AT 15 PPM S	0.002	LB/H	MASS BALANCE	0.0009	G/HP-H		0		

Table D-D-9
Greenhouse Gases (GHG) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Black Start and Emergency Internal Cumbustion Engines	Diesel	1500	kWe	Two (2) 600 kWe black start diesel generators and four (4) 1,500 kWe emergency diesel generators.	Good Combustion Practices	2781	TPY	YEARLY	0			0		
IN-0263	MIDWEST FERTILIZER COMPANY LLC	03/23/2017 ACT	EMERGENCY GENERATORS (EU014A AND EU-014B)	DISTILLATE OIL	3600	HP EACH		GOOD COMBUSTION PRACTICES	1044	TON/12 CONSEC. MONTH	EACH	500	H/YR EACH		0		
LA-0292	HOLBROOK COMPRESSOR STATION	1/22/2016	Emergency Generators No. 1 & No. 2	Diesel	1341	HP			77	TPY	ANNUAL MAXIMUM	0			0		
LA-0305	LAKE CHARLES METHANOL FACILITY	6/30/2016	Diesel Engines (Emergency)	Diesel	4023	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DEG1-13 - Diesel Fired Emergency Generator Engine (EQT0012)	Diesel	1474	horsepower	Operating hours limit: 100 hr/yr.	Compliance with NSPS Subpart IIII	84	TPY		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Generator 1	Diesel	2584	HP		Good combustion practices	0			0			0		
LA-0316	CAMERON LNG FACILITY	2/17/2017	emergency generator engines (6 units)	diesel	3353	hp		good combustion practices	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Emergency Generator Engines (4 units)	Diesel	0		I-GDE-1201, II-GDE-1201 = 2346 hp I-GDE-1202 = 755 hp I-GDE-1203 = 1193 hp	complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Emergency Diesel Generator Engine (EUEMRGRICE in FGRICE)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1600 kW (EUEMRGRICE in FGRICE).	Good combustion and design practices.	223	T/YR	BASED UPON A 12-MO ROLLING TIME PERIOD	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUEMENGINE (Diesel fuel emergency engine)	Diesel Fuel	22.68	MMBTU/H	a 2,922 horsepower (HP) (2,179 kilowatts (kW)) diesel fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Restricted to 4 hours/day, except during emergency conditions and stack testing, and 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	928	T/YR	12-MO. ROLLING TIME PERIOD	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices	13.58	T/YR	12 MO. ROLLING TIME PERIOD	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE1 in FGRICE (Emergency diesel generator engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE1 in FGRICE).	Good combustion and design practices.	209	T/YR	12-MO ROLLING TIME PERIOD	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUEMRGRICE2 in FGRICE (Emergency Diesel Generator Engine)	Diesel	500	H/YR	One emergency diesel generator engine rated at 1500 KW (EUEMRGRICE2 in FGRICE).	Good combustion and design practices.	70	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (North Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices.	383	T/YR	12-MO. ROLLING TIME PERIOD	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUEMENGINE (South Plant): Emergency Engine	Diesel	1341	HP	A 1,341 HP (1,000 kilowatts (KW)) diesel-fired emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is designed to be compliant with Tier IV emission standards. Equipped with a diesel particulate filter.	Good combustion practices.	383	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUEMENGINE: Emergency engine	Diesel	2	MW	A nominal 2 MW diesel-fueled emergency engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 2 certified engine subject to NSPS IIII.	Energy efficient design.	161	T/YR	12-MO ROLLING TIME PERIOD	0			0		
TX-0799	BEAUMONT TERMINAL	6/8/2016	EMERGENCY ENGINES	diesel	0			Equipment specifications and good combustion practices. Operation limited to 100 hours per year.	6.79	T/YR		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED EMERGENCY GENERATOR 3000 kW (1)	DIESEL FUEL	0			Good Combustion Practices/Maintenance	163.6	LB/MMBTU		1178	T/YR	12 MO ROLLING TOTAL	0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	PROPANE-FIRED EMERGENCY GENERATORS 150 kW (2)	PROPANE	0			Good Combustion Practices/Maintenance	136.1	LB/MMBTU		121	T/YR	12 MO ROLLING AVG	0		
AK-0076	POINT THOMSON PRODUCTION FACILITY	8/20/2012	Combustion of Diesel by ICEs	ULSD	1750	kW	Diesel-fired generators	Good Combustion Practices and 40 CFR 60 Subpart IIII requirements	0			0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Emergency Camp Generators	Ultra Low Sulfur Diesel	2695	hp	Three 2,695 hp ULSD-fired Standby Camp Generator Engines.		2332	T/YR	COMBINED	0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Airstrip Generator Engine	Ultra Low Sulfur Diesel	490	hp	One 490 hp Airstrip Generator Engine		163	T/YR		0			0		
*AK-0082	POINT THOMSON PRODUCTION FACILITY	1/23/2015	Bulk Tank Generator Engines	Ultra Low Sulfur Diesel	891	hp	Two ULSD-fired 891 hp Bulk Tank Storage Area Generator Engines		7194	T/YR	COMBINED	0			0		
*CO-0067	LANCASTER PLANT	6/4/2013	Emergency Generator	diesel	19950	gal per year	Kerr-McGee is proposing to install one 839 bhp diesel-fired emergency generator as part of this project. The generator will be limited to 500 hours of operation per year.	NSPS IIII compliant.	0			0			0		

Table D-D-9
Greenhouse Gases (GHG) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*FL-0328	ENI - HOLY CROSS DRILLING PROJECT	10/27/2011	Emergency Engine	Diesel	0		MAN D-2842 LE model engine	Use of good combustion practices, based on the current manufacturerâ€™s specifications for this engine	14.6	T/YR	12-MONTH ROLLING	0			0		
*FL-0328	ENI - HOLY CROSS DRILLING PROJECT	10/27/2011	Emergency Fire Pump Engine	Diesel	0		Detroit 8V-92 TA model engine	Use of good combustion practices, based on the current manufacturerâ€™s specifications for this engine	2.4	T/YR	12-MONTH ROLLING	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - Development Driller 1	Diesel	2229	hp		Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	77.84	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
*FL-0338	SAKE PROSPECT DRILLING PROJECT	5/30/2012	Emergency Generator Diesel Engine - C.R. Luigs	diesel	2064	hp	Caterpillar D3516A 1998	Use of good combustion practices based on the current manufacturerâ€™s specifications for these engines, use of low sulfur diesel fuel, positive crankcase ventilation, turbocharger with aftercooler, high pressure fuel injection with aftercooler	72.06	T/YR	PER YEAR 12 MONTH ROLLING TOTAL	0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	788.5	T/YR	ROLLING 12 MONTH TOTAL	0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	1.55	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Emergency Generator	diesel fuel	142	GAL/H	rated @ 2,000 KW	good combustion practices	0.0001	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0			0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	1.55	LB/KW-H	AVERAGE OF THREE (3) STACK TEST RUNS	0			0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	0.0001	G/KW-H	AVERAGE OF THREE (3) STACK TEST RUNS	0			0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Emergency Generators	diesel fuel	180	GAL/H	There are two (2) identically sized generators.	good combustion practices	509	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Emergency Generator	distillate fuel oil	3755	HP		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	432	T/YR		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) EMERGENCY DIESEL GENERATORS	DIESEL	1006	HP EACH	THE TWO INTERNAL COMBUSTION ENGINES, IDENTIFIED AS EG01 AND EG02, EXHAUST THROUGH TWO (2) VENTS.	GOOD ENGINEERING DESIGN AND FUEL EFFICIENT DESIGN	1186	T/YR	12 CONSECUTIVE MONTH PERIOD	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY DIESEL GENERATOR	DIESEL	2012	HP	THIS ONE (1) INTERNAL COMBUSTION ENGINE, IDENTIFIED AS EG03, EXHAUSTS THROUGH ONE (1) VENT.	GOOD ENGINEERING DESIGN AND FUEL EFFICIENT DESIGN POST COMBUSTION CARBON CAPTURE	1186	T/YR	12 CONSECUTIVE MONTH PERIOD	500	HOURS OF OPERATION	YEARLY	0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	TWO (2) EMERGENCY GENERATORS	DIESEL	1341	HORSEPOWER, EACH	IDENTIFIED AS EU-009A AND EU-009B	USE OF GOOD ENGINEERING DESIGN AND EFFICIENT ENGINES MEETING APPLICABLE NSPS AND MACT STANDARDS	84	T/YR	TWELVE CONSECUTIVE MONTHS	0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	526.39	G/HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY GENERATOR	NO. 2 FUEL OIL	4690	B-HP	ANNUAL HOURS OF OPERATION NOT TO EXCEED 200 HOURS.	GOOD COMBUSTION PRACTICES	526.39	G/HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	DIESEL FIRED EMERGENCY GENERATOR	NO. 2, DIESEL	3600	BHP	ANNUAL OPERATING HOURS SHALL NOT EXCEED 500 HOURS. INSIGNIFICANT ACTIVITY WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	526.39	G/HP-H	3-HR AVERAGE	0			0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY DIESEL GENERATOR	DIESEL	1250	HP		PROPER OPERATION AND GOOD COMBUSTION PRACTICES	0.0014	LB/MMBTU		0			0.0014	LB/MMBTU	
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY DIESEL GENERATOR	DIESEL	1250	HP		PROPER OPERATION AND GOOD COMBUSTION PRACTICES	163	LB/MMBTU		0			163	LB/MMBTU	
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY DIESEL GENERATOR	DIESEL	1250	HP		PROPER OPERATION AND GOOD COMBUSTION PRACTICES	0.0061	LB/MMBTU		0			0.0061	LB/MMBTU	
*LA-0272	AMMONIA PRODUCTION FACILITY	3/27/2013	EMERGENCY DIESEL GENERATOR (2205-B)	DIESEL	1200	HP	OPERATING TIME OF GENERATOR IS LIMITED TO 500 HR/YR.	ENERGY EFFICIENCY MEASURES	0			0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Emergency Engine/Generator	ULSD	7.4	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		162.85	LB/MMBTU		0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency fire pump engine	diesel	300	HP	223.8 kW. Emergency fire pump engine restricted to 500 hours of operation per rolling 12 months.		87	T/YR	PER ROLLING 12-MONTHS	0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency generator	diesel	2250	KW	Emergency diesel fired generator restricted to 500 hours of operation per rolling 12-months.		878	T/YR	PER ROLLING 12-MONTHS	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY GENERATOR	Ultra Low sulfur Distillate	7.8	MMBTU/H	EMERGENCY GENERATOR (1,135 BHP - 750 KW)		80.5	T/YR	12-MONTH ROLLING BASIS	0			0		

Table D-D-9
Greenhouse Gases (GHG) RBLC Search - Emergency Generator
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Generator	ULSD Fuel oil # 2	0		Emergency Generator is rated at 670 BHP and is limited to 500 hr per year (emergency and testing and maintenance, combined)		183	T/YR		0			0		
*TX-0766	GOLDEN PASS LNG EXPORT TERMINAL	9/11/2015	Emergency Engine Generators	Diesel	750	hp	Six diesel engines at site.	Equipment specifications & work practices - Good combustion practices and limited operational hours	40	HR/YR		123	T/YR		0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Emergency Generator	Diesel	2015.7	HP	Nominal 1,500 kW. Limited to 100 hours/year.		2416	LB/H		0			0		

Table D-E-1
Nitrogen Oxides (NO_X) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Fire Pump Diesel Internal Combustion Engines	Diesel	252	hp	Three (3) 252 hp fire pump diesel internal combustion engines.	Good Combustion Practices	3.7	G/KW-HR	3-HOUR AVERAGE	0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	Diesel	650	horsepower	Operating hour limit: 100 hr/yr	Compliance with NSPS Subpart IIII	6.6	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Firewater Pump 1	Diesel	282	HP		Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	1.87	LB/H	HOURLY MAXIMUM	0.47	T/YR	ANNUAL MAXIMUM	3	G/BHP-H	
LA-0316	CAMERON LNG FACILITY	2/17/2017	firewater pump engines (8 units)	diesel	460	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Firewater pump Engines (4 units)	diesel	896	hp (each)		complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 3 Engine	Diesel Fuel	600	hp	Emergency engine with a limit of 100 hours/yr on operating hours for ready testing.	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 4 Engine	Diesel Fuel	600	hp	Emergency Engine limited to 100 hours/yr for ready tests	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Dieself fire pump engine (EUFIREPUMP in FGRICE)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (identified as EUFIREPUMP in FGRICE).	Certified engines, limited operating hours.	3.53	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	3	G/BHP-H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (EUFIREPUMP in FGRICE).	Certified engines. Limited operating hours.	3.53	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	3	G/BHP-H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	3	G/BHP-H	HOURLY	0			0		
*MI-0434	FLAT ROCK ASSEMBLY PLANT	3/22/2018	EUFIREPUMPENGS (2 emergency fire pump engines)	Diesel	250	BHP	EUFIREPUMPENGS - Two (2) diesel-fueled emergency fire pump engines rated at 250 brake horsepower (BHP). No add-on control.	Good combustion practices.	3	G/B-HP-H	HOURLY; EACH ENGINE (NMHC+NOX)	2.8	LB/H	HOURLY; EACH ENGINE (NOX)	0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 3 certified engine subject to NSPS IIII.	State of the art combustion design.	4	G/KW-H	HOURLY	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month rolling total)	Good Combustion Practices/Maintenance	0			0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Diesel Fired Well Pump	Diesel	2.7	MMBtu/hr	2.7 MMBtu/hr Diesel Fired Well Pump. Installed in 1966.	Limited Operation of 168 hr/yr.	4.41	LB/MMBTU		0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	FIRE PUMP	DIESEL	303	HP			7.5	LB/H		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	135	KW	135 KW (182 hp) IC Diesel-fired Emergency Firewater Pump Engine	OPERATIONAL RESTRICTION OF 50 HR/YR, OPERATE AS REQUIRED FOR FIRE SAFETY TESTING	3.8	G/KW-HR		2.8	G/B-HP-H		0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	288	HP		EQUIPPED W/ A TURBOCHARGER AND AN INTERCOOLER/AFTERCOOLER	3.4	G/B-HP-H		0			0		
CA-1213	MOUNTAINVIEW POWER COMPANY LLC	4/21/2006	EMERGENCY FIRE IC ENGINE	DIESEL	375	BHP			0			0			0		
FL-0324	PALM BEACH RENEWABLE ENERGY PARK	12/23/2010	Two emergency diesel firewater pump engines		250	HP	The permittee is authorized to construct a 1,000 gallon tank to store ULSD fuel oil for use in the emergency diesel firewater pump engines.	demonstrate compliance in accordance with the procedures given in 40 CFR 60, Subpart IIII	3	G/B-HP-H		0			0		

Table D-E-1
Nitrogen Oxides (NO_X) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	3.75	G/KW-HR	AVERAGE OF 3 STACK TEST RUNS	0.49	T/YR	ROLLING 12 MONTH TOTAL	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	FIRE PUMP ENGINE	DIESEL	235	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 3 ENGINE-BASED GOOD COMBUSTION PRACTICES (GCP)	4	G/KW-HR	NOX+NMHC	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Firewater Pump Engine	distillate fuel oil	373	hp		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	3.5	G/KW-HR		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	3	G/B-HP-H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.83	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY WATER PUMP	NO. 2 FUEL OIL	481	BHP	ANNUAL OPERATION LIMITED TO 200 HR,	GOOD COMBUSTION PRACTICES	2.86	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.83	G/B-HP-H	3-HR AVERAGE	0			0		
LA-0192	CRESCENT CITY POWER	6/6/2005	DIESEL FIRED WATER PUMP				425 HP	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES	8.9	LB/H	HOURLY MAXIMUM	0.23	T/YR	ANNUAL MAXIMUM	9.5	G/B-HP-H	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	DFP DIESEL FIRE PUMP	DIESEL	310	HP	EQT-016	USE OF LOW-SULFUR FUELS, LIMITING OPERATING HOURS AND PROPER ENGINE MAINTENANCE	9.61	LB/H	MAX	0			0		
LA-0251	FLOPAM INC. FACILITY	4/26/2011	Fire Pump Engines - 2 units	diesel	444	hp	each		5.82	LB/H		0.29	T/YR		3	G/HP-H	(NOX + NMHC)
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Fire Pump Engine	ULSD	2.7	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		3	G/B-HP-H	1 HR BLOCK AVG	2.44	LB/H	1 HR BLOCK AVG	0		
MD-0040	CPV ST CHARLES	11/12/2008	INTERNAL COMBUSTION ENGINE - EMERGENCY FIRE WATER PUMP	DIESEL	300	HP			3	G/B-HP-H		0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA-LOW SULFUR DIESEL	300	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, AND LIMITING THE HOURS OF OPERATION	3	G/B-HP-H	N/A	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW SULFUR DIESEL	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	LIMITED OPERATING HOURS, USE OF ULTRA- LOW SULFUR FUEL AND GOOD COMBUSTION PRACTICES	3	G/B-HP-H		4	G/KW-H		0		
*MD-0043	PERRYMAN GENERATING STATION	7/1/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRAL LOW SULFUR DIESEL	350	HP	40 CFR 60, SUBPART IIII, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND EXCLUSIVE USE OF ULSD	3	G/B-HP-H		4	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	5 EMERGENCY FIRE WATER PUMP ENGINES	ULTRA LOW SULFUR DIESEL	350	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMIT	3	G/B-HP-H	NOX + NMHC	4	G/KW-H	NOX + NMHC	0		
*MI-0400	WOLVERINE POWER	6/29/2011	Fire Pump	Diesel	420	HP	Maximum operation was based on 500 hours per year.		3	G/B-HP-H	TEST PROTOCOL; BACT/SIP/NSPS	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	EU-FPENGINE: Diesel fuel fired emergency backup fire pump	diesel fuel	315	hp nameplate	This is a diesel fuel fired emergency backup fire mump. It has a capacity of 315 hp, nameplate, and uses diesel fuel ASTM D975 Grade 2-D S15. Ultra low sulfur diesel fuel (15ppmw); 100 hours per year operation for maintenance and readiness testing. NSPS IIII and NESHAP ZZZZ.	Proper combustion design and ultra low sulfur diesel fuel.	3	G/B-HP-H	TEST PROTOCOL WILL SPECIFY AVG. TIME.	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Emergency Engine --Diesel Fire Pump (EUFPENGINE)	Diesel	165	HP	A 165 hoursepower (hp) diesel-fueled emergency engine manufactured in 2013, iwth a heat input of 1.35 MMBTU/hr. Powers a fire pump used for back up during an emergency (EUFPENGINE). Restricted to 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	3	G/B-HP-H	TEST PROTOCOL	0			0		

Table D-E-1
Nitrogen Oxides (NO_X) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	IC ENGINE, EMERGENCY FIREWATER PUMP	DIESEL FUEL	11.4	MMBTU/H	usage limited to 200 h/yr		36.48	LB/H		0			7.7	G/B-HP-H	calculated, assumes 48% efficiency
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Emergency diesel fire pump	Ultra Low Sulfur Distillate oil	0		The fire pump has a maximum heat input rate of 2.63 MMBtu/hr (approximately 250 HP) and is permitted for 100 hrs per year for testing and maintenance		1.75	LB/H		0			0		
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	FIRE PUMP ENGINES (2)	DIESEL FUEL OIL	300	HP	SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES, GOOD ENGINE DESIGN, IGNITION TIMING RETARD, TURBOCHARGER, AND LOW-TEMPERATURE AFTERCOOLER	4.89	LB/H	FOR EACH ENGINE	1.23	T/YR	PER ROLLING 12-MONTH PERIOD	7.8	G/HP-H	FOR NMHC AND NOX COMBINED 95% NOX
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency fire pump engine	diesel	300	HP	223.8 kW. Emergency fire pump engine restricted to 500 hours of operation per rolling 12 months.	Purchased certified to the standards in NSPS Subpart IIII	1.7	LB/H		0.43	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY FIRE PUMP (267-HP DIESEL)	LOW SULFUR DIESEL	267	HP			4.59	LB/H		7.8	G/B-HP-H	NSPS	0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Fire Pump	Diesel	0		The fire pump will be restricted to operate not more than 100 hr/yr.		2.6	G/B-HP-H		2.6	LB/H		2.6	G/B-HP-H	
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Fire Pump Engine - 460 BHP	Diesel	0				2.6	G/B-HP-H	EXPRESSED AS NO2	2.6	LB/H		0.13	T/YR	
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY FIREWATER PUMP	ULTRA LOW SULFUR DISTILLATE	3.25	MMBTU/H	EMERGENCY FIREWATER PUMP (450 BHP)		1.86	LB/H		0.09	T/YR	12 MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Emergency Firewater Pump	Diesel	16	Gal/hr			0.09	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil #2	0		The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		2.85	G/B-HP-H		2.1	LB/H		0		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	FIRE PUMP	DIESEL	500	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF ONE (1) FIRE PUMP. THIS PROCESS AND POLLUTANT INFORMATION IS FOR THIS ONE SINGLE FIRE PUMP.	PURCHASE OF CERTIFIED ENGINE BASED ON NSPS, SUBPART IIII.	4	G/KW-HR		0			0		
*TX-0706	NATURAL GAS FRACTIONATION	1/23/2014	Emergency Engines	Ultra-low sulfur diesel	0		The process includes 1 emergency generator and 4 emergency firewater pump engines. The sulfur in the diesel fuel will meet the sulfur requirement of 15 ppm in 40 CFR 80.510(b). The emissions from each engine result from weekly testing which will occur 52 hours a year for each engine.		0.33	T/YR		0			0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Fire Pump Engine	Diesel	251	HP	Limited to 100 Hours/year.		0			0			3	G/HP-HR	NMHC + NOX
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Diesel Fire Pump Engine (EP16)	Ultra Low Sulfur Diesel	327	hp		EPA Tier 3 rated	0			0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.83	G/B-HP-H	3-HR AVERAGE	0			0		
*MI-0399	DETROIT EDISON--MONROE	12/21/2010	4 Diesel-fired quench pumps	Diesel fuel	252	HP	Each pump engine is 252 HP. They are limited to emergency use and subject to NSPS Subpart IIII.	Good combustion practices.	7.8	G/B-HP-H	QP1&QP2 EACH; TEST PROTOCOL	3	G/B-HP-H	QP3&QP4 EACH; TEST PROTOCOL	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.83	G/B-HP-H	3-HR AVERAGE	0			0		
	Astoria Energy LLC		Fire Pump	Ultra Low Sulfur Diesel				Clean Fuel	3.44	lb/MMBtu	3-hr block average		lbs/hr	3-hour block average			
	Catoctin Power LLC		Firewater Pump	Ultra Low Sulfur Diesel	370	kW		Good Combustion Practices	11.5	LB/H	3-hr average	100	hr/yr				
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	2.44	LB/H	1-hr average	3	g/hp-hr	1-hr average			
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	4	g/KW-hr	1-hr average						

Table D-E-1
Nitrogen Oxides (NO_X) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Good combustion controls.	0.857	lb/MMBtu	1-hr average						
	Cricket Valley Energy Center		Fire Pump	ULSD	2.8	MMBtu/hr			0.95	lb/MMBtu		2.6	g/hp-hr				
	Pioneer Valley Energy Center		Fire Pump	ULSD	270	HP			4	g/KW-hr							
	Hess Newark Energy Center		Fire Pump	ULSD	270	HP			1.55	LB/H		0.16	tpy				
	Woodbridge Energy Center		Fire Wate Pump	Ultra Low Sulfur Diesel					1.93	LB/H		0.096	tpy				

Table D-E-2
Carbon Monoxide (CO) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Fire Pump Diesel Internal Combustion Engines	Diesel	252	hp	Three (3) 252 hp fire pump diesel	Good Combustion Practices	3.3	G/KW-HR	3-HOUR AVERAGE	0			0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	One 422-hp emergency fire pump engine	ULSD	0		BACT limits equal to NSPS Subpart IIII	Use of clean engine technology	3.5	G / KW-HR		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	Emergency Fire Pump Engine (422 hp)	ULSD	0		Limits equal Subpart IIII limits	Certified engine	3.5	G / KWH		0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	Diesel	650	horsepower	Operating hour limit: 100 hr/yr	Compliance with NSPS Subpart IIII	0.9	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Firewater Pump 1	Diesel	282	HP		Compliance with NESHAP 40 CFR 63	1.62	LB/H	HOURLY MAXIMUM	0.4	T/YR	ANNUAL MAXIMUM	2.6	G/BHP-H	
LA-0316	CAMERON LNG FACILITY	2/17/2017	firewater pump engines (8 units)	diesel	460	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Firewater pump Engines (4 units)	diesel	896	hp (each)		complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 3 Engine	Diesel Fuel	600	hp	Emergency engine with a limit of 100	Proper operation and limits on hours	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 4 Engine	Diesel Fuel	600	hp	Emergency Engine limited to 100	Proper operation and limits on hours of	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Dieself fire pump engine (EUFIREPUMP in FGRICE)	Diesel	500	H/YR	One diesel fire pump engine rated	Good design and combustion practices.	3.5	G/KW-H	TEST PROTOCOL	3.09	LB/H	TEST PROTOCOL	0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp)	Good combustion practices and meeting	2.6	G/BHP-H	TEST PROTOCOL	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	Diesel	500	H/YR	One diesel fire pump engine rated	Good design and combustion practices.	3.5	G/KW-H	TEST PROTOCOL	3.09	LB/H	TEST PROTOCOL	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire	Good combustion practices and meeting	2.6	G/BPH-H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire	Good combustion practices and meeting	2.6	G/BHP-H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled	State of the art combustion design.	3.5	G/KW-H	HOURLY	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING	3/10/2016	Emergency Diesel Fire Pump	ULSD	100	H/YR	Maximum heat Input Rate = 2.6	use of ULSD a clean burning fuel, and	1.1	LB/H		0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Emergency fire pump	ultra low sulfur diesel	460	hp		Compliance demonstrated with	0.53	G/BHP-H	1 H	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Emergency Fire Pump Engine	ULSD	0		Sulfur content of diesel fuel shall not		2.61	G/BHP-HR		0			0		
TX-0799	BEAUMONT TERMINAL	6/8/2016	Fire pump engines	diesel	0			Equipment specifications and	0.0055	LB/HP-HR		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month	Good Combustion Practices/Maintenance	2.6	G/HP-H	HR	0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Diesel Fired Well Pump	Diesel	2.7	MMBtu/hr	2.7 MMBtu/hr Diesel Fired Well Pump. Installed in 1966.	Limited Operation of 168 hr/yr.	0.95	LB/MMBTU		0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	FIRE PUMP	DIESEL	303	HP			0.7	LB/H		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	135	KW	135 KW (182 hp) IC Diesel-fired Emergency Firewater Pump Engine	OPERATIONAL RESTRICTION OF 50 HR/YR, OPERATE AS REQUIRED FOR FIRE SAFETY TESTING	3.5	G/KW-HR		2.6	G/B-HP-H		0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	288	HP		EQUIPPED W/ A TURBOCHARGER AND AN INTERCOOLER/AFTERCOOLER	0.447	G/B-HP-H		0			0		
FL-0324	PALM BEACH RENEWABLE ENERGY PARK	12/23/2010	Two emergency diesel firewater pump engines		250	HP	The permittee is authorized to construct a 1,000 gallon tank to store ULSD fuel oil for use in the emergency diesel firewater pump engines.	demonstrate compliance in accordance with the procedures given in 40 CFR 60, Subpart IIII	2.6	G/B-HP-H		0			0		
IA-0084	ADM POLYMERS	11/30/2006	FIRE PUMP ENGINE	DIESEL FUEL	460	HP	THERE ARE 4 IDENTICAL FIRE PUMP ENGINES ASSOCIATED WITH THIS PROJECT. ALL OF THE UNITS HAVE THE SAME EMISSION LIMITS	GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	AVERAGE OF THREE (3) TEST RUNS	0.78	T/YR	ROLLING 12 MONTH TOTAL	0		

Table D-E-2
Carbon Monoxide (CO) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	FIRE PUMP ENGINE	DIESEL	235	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 3 ENGINE-BASED, GOOD COMBUSTION PRACTICES (GCP)	0		SEE NOTE	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Firewater Pump Engine	distillate fuel oil	373	hp		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	3.5	G/KW-HR		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	2.6	G/B-HP-H		500	HOURS OF OPERATION	YEARLY	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY WATER PUMP	NO. 2 FUEL OIL	481	BHP	ANNUAL OPERATION LIMITED TO 200 HR,	GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	3-HR AVERAGE	0			0		
LA-0192	CRESCENT CITY POWER	6/6/2005	DIESEL FIRED WATER PUMP				425 HP	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES	1.88	LB/H	HOURLY MAXIMUM	0.05	T/YR	ANNUAL MAXIMUM	2.01	G/B-HP-H	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	DFP DIESEL FIRE PUMP	DIESEL	310	HP	EQT-016	USE OF LOW-SULFUR FUELS, LIMITING OPERATING HOURS AND PROPER ENGINE MAINTENANCE	2.07	LB/H	MAX	0			0		
LA-0251	FLOPAM INC. FACILITY	4/26/2011	Fire Pump Engines - 2 units	diesel	444	hp	each	good equipment design and proper combustion practices	0.65	LB/H		0.03	T/YR		0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY FIRE PUMP	DIESEL	350	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	LB/MM BTU	2.6	G/HP-H	ANNUAL AVERAGE			
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Fire Pump Engine	ULSD	2.7	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		2.6	G/B-HP-H	1 HR BLOCK AVG	2.14	LB/H	1 HR BLOCK AVG	0		
MD-0040	CPV ST CHARLES	11/12/2008	INTERNAL COMBUSTION ENGINE - EMERGENCY FIRE WATER PUMP	DIESEL	300	HP			2.6	G/B-HP-H		0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA-LOW SULFUR DIESEL	300	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE OF ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	N/A	0			0		

Table D-E-2
Carbon Monoxide (CO) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW SULFUR DIESEL	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND HOURS OF OPERATION LIMITED TO 100 HOURS PER YEAR	2.6	G/B-HP-H		3.49	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	5 EMERGENCY FIRE WATER PUMP ENGINES	ULTRA LOW SULFUR DIESEL	350	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES AND DESIGNED TO MEET EMISSION LIMIT	3	G/B-HP-H		4	G/KW-H		0		
MI-0389	KARN WEADOCK GENERATING COMPLEX	12/29/2009	FIRE PUMP	ULTRA LOW SULFUR DIESEL	525	HP	OPERATIONAL LIMITS: 1 HOUR/DAY AND 500 HRS/YEAR FOR PM2.5 NAAQS.	ENGINE DESIGN AND OPERATION. 15 PPM SULFUR FUEL	2.6	G/B-HP-H	TEST METHOD	0			0		
MI-0389	KARN WEADOCK GENERATING COMPLEX	12/29/2009	FIRE BOOSTER PUMP	ULTRA LOW SULFUR DIESEL	40	KW	OPERATIONAL LIMITS 1 HR/DAY AND 500 HRS/YR FOR PM2.5 NAAQS.	ENGINE DESIGN AND OPERATION. 15 PPM SULFUR FUEL.	5	G/KW-HR	TEST METHOD	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	EU-FPENGINE: Diesel fuel fired emergency backup fire pump	diesel fuel	315	hp nameplate	This is a diesel fuel fired emergency backup fire mump. It has a capacity of 315 hp, nameplate, and uses diesel fuel ASTM D975 Grade 2-D S15. Ultra low sulfur diesel fuel (15ppmw); 100 hours per year operation for maintenance and readiness testing. NSPS IIII and NESHAP ZZZZ.	Proper combustion design and ultra low sulfur diesel fuel.	2.6	G/B-HP-H	TEST PROTOCOL WILL SPECIFY AVG. TIME.	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Emergency Engine --Diesel Fire Pump (EUFPENGINE)	Diesel	165	HP	A 165 hoursepower (hp) diesel-fueled emergency engine manufactured in 2013, iwth a heat input of 1.35 MMBTU/hr. Powers a fire pump used for back up during an emergency (EUFPENGINE). Restricted to 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	3.7	G/B-HP-H	TEST PROTOCOL	0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Eight 325 hp diesel firewater pumps	diesel	325	hp			0			0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	IC ENGINE, EMERGENCY FIREWATER PUMP	DIESEL FUEL	11.4	MMBTU/H	usage limited to 200 h/yr		9.69	LB/H		0			2.05	G/B-HP-H	calculated, assumes 48% efficiency
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Emergency diesel fire pump	Ultra Low Sulfur Distillate oil	0		The fire pump has a maximum heat input rate of 2.63 MMBtu/hr (approximately 250 HP) and is permitted for 100 hrs per year for testing and maintenance		0.079	LB/H		2.6	G/B-HP-H		0		

Table D-E-2
Carbon Monoxide (CO) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	FIRE PUMP ENGINES (2)	DIESEL FUEL OIL	300	HP	SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN	1.72	LB/H	FOR EACH ENGINE	0.43	T/YR	PER ROLLING 12-MONTH PERIOD	2.6	G/HP-H	FROM TABLE 4 OF SUBPART IIII
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency fire pump engine	diesel	300	HP	223.8 kW. Emergency fire pump engine restricted to 500 hours of operation per rolling 12 months.	Purchased certified to the standards in NSPS Subpart IIII	1.7	LB/H		0.43	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY FIRE PUMP (267-HP DIESEL)	LOW SULFUR DIESEL	267	HP			2.6	G/B-HP-H	NSPS	0			0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PLT	10/10/2012	Fire Pump	Diesel	0		The fire pump will be restricted to operate not more than 100 hr/yr.		0.5	G/B-HP-H		0.51	LB/H		0.5	G/B-HP-H	
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Fire Pump Engine - 460 BHP	Diesel	0				0.5	G/B-HP-H		0.51	LB/H		0.03	T/YR	
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY FIREWATER PUMP	ULTRA LOW SULFUR DISTILLATE	3.25	MMBTU/H	EMERGENCY FIREWATER PUMP (450 BHP)		2.58	LB/H		0.13	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Emergency Firewater Pump	Diesel	16	Gal/hr			0.09	T/YTR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil #2	335	bhp	The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		2.6	G/B-HP-H		1.93	LB/H		0		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	FIRE PUMP	DIESEL	500	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF ONE (1) FIRE PUMP. THIS PROCESS AND POLLUTANT INFORMATION IS FOR THIS ONE SINGLE FIRE PUMP.	ENGINES CERTIFIED TO MEET NSPS, SUBPART IIII. HOURS OF OPERATION LIMITED TO 100 HOURS PER YEAR FOR MAINTENANCE AND TESTING.	3.5	G/KW-HR		0			0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Fire Pump Engine	Diesel	251	HP	Limited to 100 Hours/year.		1.44	LB/H		0			0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Diesel Fire Pump Engine (EP16)	Ultra Low Sulfur Diesel	327	hp		EPA Tier 3 rated	0			0			0		

Table D-E-2
Carbon Monoxide (CO) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	3-HR AVERAGE	0			0		
*MI-0399	DETROIT EDISON--MONROE	12/21/2010	4 Diesel-fired quench pumps	Diesel fuel	252	HP	Each pump engine is 252 HP. They are limited to emergency use and subject to NSPS Subpart IIII.	Good combustion practices.	2.6	G/B-HP-H	EACH PUMP; TEST PROTOCOL	0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	2.6	G/B-HP-H	3-HR AVERAGE	0			0		
	Astoria Energy LLC		Fire Pump	Ultra Low Sulfur Diesel				Clean Fuel	0.18	lb/MMBtu	1-hr average		LB/H	1-hour average			
	Catoctin Power LLC		Firewater Pump	Ultra Low Sulfur Diesel	370	kW		Good Combustion Practices	2.5	LB/H	3-hr average	100	hr/yr				
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	2.14	LB/H	1-hr average	2.6	g/b-hp-hr	1-hr average			
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	3.5	g/KW-hr	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Good combustion controls.	0.75	lb/MMBtu	1-hr average						
	Cricket Valley Energy Center		Fire Pump	ULSD	2.8	MMBtu/hr			0.19	lb/MMBtu		0.53	g/b-hp-hr				
	Hess Newark Energy Center		Fire Pump	ULSD	270	HP			1.55	LB/H		0.16	T/YR		2.60	G/HP-H	
	Woodbridge Energy Center		Fire Wate Pump	Ultra Low Sulfur Diesel					2.6	G/B-HP-H		1.81	LB/H				

Table D-E-3
Volatile Organic Compounds (VOC) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
LA-0276	BATON ROUGE JUNCTION FACILITY	12/15/2016	Fire Pump Engines (2 units)	Diesel	700	hp		Comply with standards of NSPS Subpart IIII	0			0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	Diesel	650	horsepower	Operating hour limit: 100 hr/yr	Compliance with NNSPS Subpart IIII	0.13	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Firewater Pump 1	Diesel	282	HP		Good combustion practices	1.87	LB/H	HOURLY MAXIMUM	0.47	T/YR	ANNUAL MAXIMUM	0		
LA-0316	CAMERON LNG FACILITY	2/17/2017	firewater pump engines (8 units)	diesel	460	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later	Good combustion practices	0.64	LB/H	TEST PROTOCOL	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a	Good combustion practices.	0.75	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a	Good combustion practices	0.75	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later,	State of the art combustion design.	0.13	LB/H	HOURLY	0			0		
TX-0799	BEAUMONT TERMINAL	6/8/2016	Fire pump engines	diesel	0			Equipment specifications and good combustion practices. Operation	0.0007	LB/HP-HR		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month rolling total)	Good Combustion Practices/Maintenance	3	G/HP-H	PER HR	0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Diesel Fired Well Pump	Diesel	2.7	MMBtu/hr	2.7 MMBtu/hr Diesel Fired Well Pump. Installed in 1966.	Limited Operation of 168 hr/yr.	0.36	LB/MMBTU		0			0		
IA-0084	ADM POLYMERS	11/30/2006	FIRE PUMP ENGINE	DIESEL FUEL	460	HP	THERE ARE 4 IDENTICAL FIRE PUMP ENGINES ASSOCIATED WITH THIS PROJECT. ALL OF THE UNITS HAVE THE SAME EMISSION LIMITS	GOOD COMBUSTION PRACTICES	3	G/B-HP-H	3 1-H TEST RUNS	1.65	T/YR	ROLLING 12 MONTH TOTAL	0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	0.25	G/KW-HR	AVERAGE OF 3 STACK TEST RUNS	0.03	T/YR	ROLLING 12 MONTH TOTAL	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	FIRE PUMP ENGINE	DIESEL	235	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 3 ENGINE-BASED, GOOD COMBUSTION PRACTICES (GCP)	4	G/KW-HR	NOX+NMHC	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Firewater Pump Engine	distillate fuel oil	373	hp		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.4	G/KW-HR		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.16	LB/H		500	HOURS OF OPERATION	YEARLY	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.141	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY WATER PUMP	NO. 2 FUEL OIL	481	BHP	ANNUAL OPERATION LIMITED TO 200 HR,	GOOD COMBUSTION PRACTICES	0.141	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.141	G/B-HP-H	3-HR AVERAGE	0			0		
LA-0192	CRESCENT CITY POWER	6/6/2005	DIESEL FIRED WATER PUMP				425 HP	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES	0.05	LB/H	HOURLY MAXIMUM	0.001	T/YR	ANNUAL MAXIMUM	0.05	G/B-HP-H	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	DFP DIESEL FIRE PUMP	DIESEL	310	HP	EQT-016	USE OF LOW-SULFUR FUELS, LIMITING OPERATING HOURS AND PROPER ENGINE MAINTENANCE	0.77	LB/H	MAX	0			0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY FIRE PUMP	DIESEL	350	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	1	G/B-HP-H	ANNUAL AVERAGE	0			1	G/HP-H	ANNUAL AVERAGE
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	5 EMERGENCY FIRE WATER PUMP ENGINES	ULTRA LOW SULFUR DIESEL	350	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE ONLY ULSD, GOOD COMBUSTION PRACTICES, AND DESIGNED TO ACHIEVE EMISSION LIMIT	3	G/B-HP-H	NOX + NMHC	4	G/KW-HR	NOX + NMHC	0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	EU-FPENGINE: Diesel fuel fired emergency backup fire pump	diesel fuel	315	hp nameplate	This is a diesel fuel fired emergency backup fire mump. It has a capacity of 315 hp, nameplate, and uses diesel fuel ASTM D975 Grade 2-D S15. Ultra low sulfur diesel fuel (15ppmw); 100 hours per year operation for maintenance and readiness testing. NSPS IIII and NESHAP ZZZZ.	Proper combustion design and ultra low sulfur diesel fuel.	0			0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Emergency Engine --Diesel Fire Pump (EUFPENGINE)	Diesel	165	HP	A 165 hoursepower (hp) diesel-fueled emergency engine manufactured in 2013, iwth a heat input of 1.35 MMBTU/hr. Powers a fire pump used for back up during an emergency (EUFPENGINE). Restricted to 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.001	LB/H	TEST PROTOCOL	0			0		

Table D-E-3
Volatile Organic Compounds (VOC) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Eight 325 hp diesel firewater pumps	diesel	325	hp			0			0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	IC ENGINE, EMERGENCY FIREWATER PUMP	DIESEL FUEL	11.4	MMBTU/H	usage limited to 200 h/yr		1.04	LB/H		0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Emergency diesel fire pump	Ultra Low Sulfur Distillate oil	0		The fire pump has a maximum heat input rate of 2.63 MMBtu/hr (approximately 250 HP) and is permitted for 100 hrs per year for testing and maintenance		0.119	LB/H		0			0		
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	FIRE PUMP ENGINES (2)	DIESEL FUEL OIL	300	HP	SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN	0.26	LB/H	FOR EACH ENGINE	0.07	T/YR	PER ROLLING 12-MONTH PERIOD	7.8	G/HP-H	FOR NMHC AND NOX COMBINED, 5% NMHC
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency fire pump engine	diesel	300	HP	223.8 kW. Emergency fire pump engine restricted to 500 hours of operation per rolling 12 months.	Purchased certified to the standards in NSPS Subpart IIII	0.25	LB/H		0.06	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY FIRE PUMP (267-HP DIESEL)	LOW SULFUR DIESEL	267	HP		GOOD COMBUSTION	0.66	LB/H		0			0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PLT	10/10/2012	Fire Pump	Diesel	0		The fire pump will be restricted to operate not more than 100 hr/yr.		0.1	G/B-HP-H		0.1	LB/H		0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Fire Pump Engine - 460 BHP	Diesel	0				0.1	G/B-HP-H		0.1	LB/H		0.01	T/YR	

Table D-E-3
Volatile Organic Compounds (VOC) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY FIREWATER PUMP	ULTRA LOW SULFUR DISTILLATE	3.25	MMBTU/H	EMERGENCY FIREWATER PUMP (450 BHP)		1.11	LB/H		0.06	T/YR	A 12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Emergency Firewater Pump	Diesel	16	Gal/hr			0.013	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil #2	0		The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		0.15	G/B-HP-H		0.11	LB/H		0		
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	FIRE PUMP	DIESEL	500	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF ONE (1) FIRE PUMP. THIS PROCESS AND POLLUTANT INFORMATION IS FOR THIS ONE SINGLE FIRE PUMP.	CERTIFIED ENGINES THAT COMPLY WITH NSPS, SUBPART IIII. HOURS OF OPERATION LIMITED TO 100 HOURS PER YEAR FOR MAINTENANCE AND TESTING.	4	G/KW-HR		0			0		
SC-0159	US10 FACILITY	7/9/2012	FIRE PUMPS, FIRE1, FIRE2, FIRE3	DIESEL	211	KW	THREE (3) 211 KW/282 BHP (EACH) EMERGENCY DIESEL FIRE PUMPS THAT ARE EXPECTED TO BE OPERATED UP TO 100 HOURS PER YEAR OR LESS FOR TESTING AND MAINTENANCE.	BACT HAS BEEN DETERMINED TO BE COMPLIANCE WITH NSPS, SUBPART IIII, 40 CFR60.4202 AND 40 CFR60.4205.	4	G/KW-HR		0			0		
*TX-0706	NATURAL GAS FRACTIONATION	1/23/2014	Emergency Engines	Ultra-low sulfur diesel	0		The process includes 1 emergency generator and 4 emergency firewater pump engines. The sulfur in the diesel fuel will meet the sulfur requirement of 15 ppm in 40 CFR 80.510(b). The emissions from each engine result from weekly testing which will occur 52 hours a year for each engine.		0.03	T/YR		0			0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Fire Pump Engine	Diesel	251	HP	Limited to 100 Hours/year.		0.17	LB/H		0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.141	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.141	G/B-HP-H	3-HR AVERAGE	0			0		
	Astoria Energy LLC		Fire Pump	Ultra Low Sulfur Diesel				Clean Fuel	0.11	lb/MMBtu	1-hr average						
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	2.44	LB/H	1-hr average	3	g/b-hp-hr	1-hr average			
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	4	g/KW-hr	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Good combustion controls.	0.3612	lb/MMBtu	1-hr average						
	Cricket Valley Energy Center		Fire Pump	ULSD	2.8	MMBtu/hr			0.035	lb/MMBtu		0.097	g/b-hp-hr				
	Tenaska Partners LLC		Fire Pump	ULSD	575	HP			0.11	LB/H		0.03	T/YR	12-month rolling			
	Hess Newark Energy Center		Fire Pump	ULSD	270	HP			0.22	LB/H		0.02	T/YR				
	Woodbridge Energy Center		Fire Wate Pump	Ultra Low Sulfur Diesel					0.074	lb/MMBtu		0.16	LB/H				

Table D-E-4
Particulate Matter (PM) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Fire Pump Diesel Internal Combustion Engines	Diesel	252	hp	Three (3) 252 hp fire pump diesel internal combustion engines.	Clean Fuel and Good Combustion Practices	0.19	G/KW-HR	3-HOUR AVERAGE	0			0		
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	One 422-hp emergency fire pump engine	ULSD	0		BACT limits equal to NSPS Subpart IIII limits. Will use IIII certified engine.	Use of clean fuel	0.2	G / KW-HR		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	Emergency Fire Pump Engine (422 hp)	ULSD	0		Limits equal Subpart IIII limits	Certified engine	0.2	G / KWH		0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Dieself fire pump engine (EUFIREPUMP in FGRICE)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (identified as EUFIREPUMP in FGRICE).	Certified engines, good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0.2	G/KW-H	TEST PROTOCOL WILL SPECIFY AVG TIME	0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	0.15	G/BHP-H	TEST PROTOCOL WILL SPECIFY AVG TIME.	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (EUFIREPUMP in FGRICE).	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	TEST PROTOCOL SHALL SPECIFY	0.2	G/KW-H	TEST PROTOCOL SHALL SPECIFY	0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.15	G/BHP-H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.15	G/BHP-H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 3 certified engine subject to NSPS IIII.	State of the art combustion design	0.2	G/KW-H	HOURLY	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Emergency Diesel Fire Pump	ULSD	100	H/YR	Maximum heat Input Rate = 2.6 MMBtu/hr	use of ULSD a clean burning fuel, and limited hours of operation	0.1	LB/H		0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Emergency fire pump	ultra low sulfur diesel	460	hp		Compliance demonstrated with vendor emission certification and adherence to vendor-specified maintenance recommendations.	0.087	G/BHP-H	1 H	0			0		
*PA-0310	CPV FAIRVIEW ENERGY CENTER	9/2/2016	Emergency Fire Pump Engine	ULSD	0		Sulfur content of diesel fuel shall not exceed 15 ppm, operation of engine shall not exceed 100 hr on a 12-month rolling basis.		0.15	G/BHP-HR		0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Diesel Fired Well Pump	Diesel	2.7	MMBtu/hr	2.7 MMBtu/hr Diesel Fired Well Pump. Installed in 1966.	Limited Operation of 168 hr/yr.	0.31	LB/MMBTU		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	135	KW	135 KW (182 hp) IC Diesel-fired Emergency Firewater Pump Engine	OPERATIONAL RESTRICTION OF 50 HR/YR, OPERATE AS REQUIRED FOR FIRE SAFETY TESTING	0.2	G/KW-H		0.15	G/HP-H		0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	288	HP		USE ULTRA LOW SULFUR FUELNOT TO EXCEED 15 PPMVD FUEL SULFUR, OPERATIONAL LIMIT OF 50 HRS/YR	0			0			0		
FL-0324	PALM BEACH RENEWABLE ENERGY PARK	12/23/2010	Two emergency diesel firewater pump engines		250	HP	The permittee is authorized to construct a 1,000 gallon tank to store ULSD fuel oil for use in the emergency diesel firewater pump engines.	demonstrate compliance in accordance with the procedures given in 40 CFR 60, Subpart IIII	0.15	G/HP-H		0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Emergency fire pump engine (300 HP)	USLD	29	MMBtu/hr	Emergency engine. BACT = NSPS IIII.	Good combustion practice	0.2	GRAM PER HP-HR		0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	0.2	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0.03	TONS/YR	ROLLING 12 MONTH TOTAL	0		
ID-0018	LANGLEY GULCH POWER PLANT	6/25/2010	FIRE PUMP ENGINE	DIESEL	235	KW	COMPRESSION IGNITION INTERNAL COMBUSTION (CI ICE)	TIER 3 ENGINE-BASED, GOOD COMBUSTION PRACTICES (GCP)	0.2	G/KW-H		0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Firewater Pump Engine	distillate fuel oi	373	hp		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-HR		0			0		
*IN-0158	ST. JOSEPH ENERGY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/HP-H		500	HOURS OF OPERATION	YEARLY	0		

Table D-E-4
Particulate Matter (PM) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/BHP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY WATER PUMP	NO. 2 FUEL OI	481	BHP	ANNUAL OPERATION LIMITED TO 200 HR,	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	INTERNAL COMBUSTION ENGINE - EMERGENCY FIRE WATER PUMP	DIESEL	300	HP			0.15	G/HP-H		0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA-LOW S	300	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULTRA LOW SULFUR FUEL AND GOOD COMBUSTION PRACTICES	0.15	G/HP-H	N/A	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW S	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/HP-H		0.2	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	5 EMERGENCY FIRE WATER PUMP ENGINES	ULTRA LOW S	350	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/BHP-H		0.2	G/KW-H		0		
MI-0389	KARN WEADOCK GENERATING COMPLEX	12/29/2009	FIRE BOOSTER PUMP	ULTRA LOW S	40	KW	OPERATIONAL LIMITS 1 HR/DAY AND 500 HRS/YR FOR PM2.5 NAAQS.	ENGINE DESIGN AND OPERATION. 15 PPM SULFUR FUEL.	0.4	G/KW-H	TEST METHOD	0			0		
*MI-0400	WOLVERINE POWER	6/29/2011	Fire Pump	Diesel	420	HP	Maximum operation was based on 500 hours per year.		0.15	G/HP-H	TEST PROTOCOL; BACT/SIP/NSPS	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	EU-FPENGINE: Diesel fuel fired emergency backup fire pump	diesel fuel	315	hp nameplate	This is a diesel fuel fired emergency backup fire mump. It has a capacity of 315 hp, nameplate, and uses diesel fuel ASTM D975 Grade 2-D S15. Ultra low sulfur diesel fuel (15ppmw); 100 hours per year operation for maintenance and readiness testing. NSPS IIII and NESHAP ZZZZ.	Proper combustion design and ultra low sulfur diesel fuel.	0.15	G/HP-H	TEST PROTOCOL WILL SPECIFY AVG. TIME	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Emergency Engine -- Diesel Fire Pump (EUFPENGINE)	Diesel	165	HP	A 165 hoursepower (hp) diesel-fueled emergency engine manufactured in 2013, iwth a heat input of 1.35 MMBTU/hr. Powers a fire pump used for back up during an emergency (EUFPENGINE). Restricted to 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.22	G/HP-H	TEST PROTOCOL	0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Eight 325 hp diesel firewater pumps	diesel	325	hp			0			0			0		
NH-0018	BERLIN BIOPOWER	7/26/2010	EU03 FIRE PUMP ENGINE	DIESEL FUEL	2.27	MMBTU/H			0.3	E-5 LB/MMBTU	STACK TESTING	0			0		

Table D-E-4
Particulate Matter (PM) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Emergency diesel fire pump	Ultra Low Sulfu	250	hp	The fire pump has a maximum heat input rate of 2.63 MMBtu/hr (approximately 250 HP) and is permitted for 100 hrs per year for testing and maintenance	Use of Ultra low sulfur distillate oil	0.15	G/B-HP-H		0.099	LB/H		0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.		18.5	LB/H W/ DUCT BURNER	11.0 LB/HR WITHOUT	62.89	T/YR 12-MONTH ROLLIN	INCLUDING STARTUP AND SHUTDOWN	0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY FIREWATER PUMP	ULTRA LOW S	3.25	MMBTU/H	EMERGENCY FIREWATER PUMP (450 BHP)		0.15	LB/H		0.01	T/YR	12-MONTH ROLLING TOTAL	0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil	335	hp	The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		0.15	G/B-HP-H		0.11	LB/H		0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
*MI-0399	DETROIT EDISON--MONROE	12/21/2010	4 Diesel-fired quench pumps	Diesel fuel	252	HP	Each pump engine is 252 HP. They are limited to emergency use and subject to NSPS Subpart IIII.	Good combustion practices.	0.4	G/HP-H	QP1&QP2 EACH, TEST PROTOCOL	0.15	G/HP-H	QP3&QP4 EACH, TEST PROTOCOL	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/BHP-H	3-HR AVERAGE	0			0		
	Astoria Energy LLC		Fire Pump	Ultra Low Sulfur Diesel				Clean Fuel	0.06	lb/MMBtu	1-hr average	0.11	LB/H	1-hour average			
	Catoctin Power LLC		Firewater Pump	Ultra Low Sulfu	370	kW		ULSD (<0.05% S); Good Combustion Practices	0.81	LB/H	3-hr average	100	hr/yr				
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	0.12	LB/H	1-hr average	0.15	g/b-hp-hr	1-hr average			
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	0.2	g/KW-hr	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Low sulfur fuel.	0.043	lb/MMBtu	1-hr average						
	Hess Newark Energy Center		Fire Pump	ULSD	270	HP			1.24	LB/H							

Table D-E-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Fire Pump Diesel Internal Combustion Engines	Diesel	252	hp	Three (3) 252 hp fire pump diesel internal combustion engines.	Clean Fuel and Good Combustion Practices	0.19	G/KW-HR	3-HOUR AVERAGE	0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	Diesel	650	horsepower	Operating hour limit: 100 hr/yr	Compliance with NSPS Subpart IIII	0.15	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Firewater Pump 1	Diesel	282	HP		Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	0.09	LB/H	HOURLY MAXIMUM	0.02	T/YR	ANNUAL MAXIMUM	0.15	G/BHP-H	
LA-0316	CAMERON LNG FACILITY	2/17/2017	firewater pump engines (8 units)	diesel	460	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Firewater pump Engines (4 units)	diesel	896	hp (each)		complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 3 Engine	Diesel Fuel	600	hp	Emergency engine with a limit of 100 hours/yr on operating hours for ready testing.	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 4 Engine	Diesel Fuel	600	hp	Emergency Engine limited to 100 hours/yr for ready tests	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Dieself fire pump engine (EUFIREPUMP in FGRICE)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (identified as EUFIREPUMP in FGRICE).	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.57	LB/H	HOURLY	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (EUFIREPUMP in FGRICE).	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.66	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.66	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 3 certified engine subject to NSPS IIII.	State of the art combustion design.	0.13	LB/H	HOURLY	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Emergency Diesel Fire Pump	ULSD	100	H/YR	Maximum heat Input Rate = 2.6 MMBtu/hr	use of ULSD a clean burning fuel, and limited hours of operation	0.1	LB/H		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month rolling total)	Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.3	G/HP-H	PER HR	0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Diesel Fired Well Pump	Diesel	2.7	MMBtu/hr	2.7 MMBtu/hr Diesel Fired Well Pump. Installed in 1966.	Limited Operation of 168 hr/yr.	0.31	LB/MMBTU		0			0		
CA-1144	BLYTHE ENERGY PROJECT II	4/25/2007	FIRE PUMP	DIESEL	303	HP			0.1	LB/H		0			0		
CA-1192	AVENAL ENERGY PROJECT	6/21/2011	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	288	HP		USE ULTRA LOW SULFUR FUEL NOT TO EXCEED 15 PPMVD FUEL SULFUR, OPERATIONAL LIMIT OF 50 HRS/YR	0			0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	0.2	G/KW-HR	AVERAGE OF 3 STACK TEST RUNS	0.03	T/YR	ROLLING 12 MONTH TOTAL	0		

Table D-E-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Firewater Pump Engine	distillate fuel oil	373	hp		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-HR		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/B-HP-H		500	HOURS OF OPERATION	YEARLY	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY WATER PUMP	NO. 2 FUEL OIL	481	BHP	ANNUAL OPERATION LIMITED TO 200 HR,	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
LA-0192	CRESCENT CITY POWER	6/6/2005	DIESEL FIRED WATER PUMP				425 HP	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES	0.14	LB/H	HOURLY MAXIMUM	0.004	T/YR	ANNUAL MAXIMUM	0.15	G/B-HP-H	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	DFP DIESEL FIRE PUMP	DIESEL	310	HP	EQT-016	USE OF LOW-SULFUR FUELS, LIMITING OPERATING HOURS AND PROPER ENGINE MAINTENANCE	0.68	LB/H	MAX	0			0		
LA-0251	FLOPAM INC. FACILITY	4/26/2011	Fire Pump Engines - 2 units	diesel	444	hp	each		0.01	LB/H		0.01	T/YR		0.15	G/HP-H	
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY FIRE PUMP	DIESEL	350	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	ANNUAL AVERAGE	0.15	G/B-HP-H	ANNUAL AVERAGE			
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Fire Pump Engine	ULSD	2.7	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		0.15	G/B-HP-H	1 HR BLOCK AVERAGE	0.12	LB/H	1 HR BLOCK AVERAGE	0		
MD-0040	CPV ST CHARLES	11/12/2008	INTERNAL COMBUSTION ENGINE - EMERGENCY FIRE WATER PUMP	DIESEL	300	HP			0.15	G/B-HP-H		0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA-LOW SULFUR DIESEL	300	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULTRA LOW SULFUR FUEL AND GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	N/A	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW SULFUR DIESEL	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/B-HP-H		0.23	G/KW-HR		0		
*MD-0043	PERRYMAN GENERATING STATION	7/1/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRAL LOW SULFUR DIESEL	350	HP	40 CFR 60, SUBPART IIII, GOOD COMBUSTION PRACTICES	GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND EXCLUSIVE USE OF ULSD	0.17	G/B-HP-H	FILTERABLE + CONDENSIBLE	0.15	G/B-HP-H	FILTERABLE	0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	5 EMERGENCY FIRE WATER PUMP ENGINES	ULTRA LOW SULFUR DIESEL	350	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.17	G/B-HP-H		0.23	G/KW-HR		0		
MI-0389	KARN WEADOCK GENERATING COMPLEX	12/29/2009	FIRE BOOSTER PUMP	ULTRA LOW SULFUR DIESEL	40	KW	OPERATIONAL LIMITS 1 HR/DAY AND 500 HRS/YR FOR PM2.5 NAAQS.	ENGINE DESIGN AND OPERATION. 15 PPM SULFUR FUEL.	0.31	LB/MMBTU	TEST METHOD	0			0		
*MI-0400	WOLVERINE POWER	6/29/2011	Fire Pump	Diesel	420	HP	Maximum operation was based on 500 hours per year.		0.14	LB/H	TEST PROTOCOL; BACT	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	EU-FPENGINE: Diesel fuel fired emergency backup fire pump	diesel fuel	315	hp nameplate	This is a diesel fuel fired emergency backup fire mump. It has a capacity of 315 hp, nameplate, and uses diesel fuel ASTM D975 Grade 2-D S15. Ultra low sulfur diesel fuel (15ppmw); 100 hours per year operation for maintenance and readiness testing. NSPS IIII and NESHAP ZZZZ.	Proper combustion design and ultra low sulfur diesel fuel	0.6	LB/H	TEST PROTOCOL WILL SPECIFY AVG. TIME	0			0		

Table D-E-5
Particulate Matter, 10 Microns (PM_{10}) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Emergency Engine -- Diesel Fire Pump (EUFPENGINE)	Diesel	165	HP	A 165 hoursepower (hp) diesel-fueled emergency engine manufactured in 2013, iwth a heat input of 1.35 MMBTU/hr. Powers a fire pump used for back up during an emergency (EUFPENGINE). Restricted to 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.09	LB/MMBTU	TEST PROTOCOL	0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Eight 325 hp diesel firewater pumps	diesel	325	hp			0			0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	IC ENGINE, EMERGENCY FIREWATER PUMP	DIESEL FUEL	11.4	MMBTU/H	usage limited to 200 h/yr		1.14	LB/H		0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Emergency diesel fire pump	Ultra Low Sulfur Distillate oil	0		The fire pump has a maximum heat input rate of 2.63 MMBtu/hr (approximately 250 HP) and is permitted for 100 hrs per year for testing and maintenance	Use of ultra low sulfur distillate oil	0.15	G/B-HP-H		0.099	LB/H		0		
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	FIRE PUMP ENGINES (2)	DIESEL FUEL OIL	300	HP	SUBJECT TO NSPS SUBPART IIII. WILL INSTALL NON-RESETTABLE HOUR METER PRIOR TO STARTUP PER 40 CFR 60.4209(A) DIESEL FUEL SHALL MEET THE REQUIREMENTS OF 40 CFR 80.510 AND 60.4207: SULFUR CONTENT OF 15 PPM MAXIMUM, CETANE INDEX OF 40 MINIMUM OR AROMATIC CONTENT OF 35 VOLUME % MAXIMUM	GOOD COMBUSTION PRACTICES AND GOOD ENGINE DESIGN	0.27	LB/H	FOR EACH ENGINE	0.07	T/YR	PER ROLLING 12-MONTH PERIOD	0.4	G/HP-H	FROM TABLE 4 OF SUBPART IIII
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency fire pump engine	diesel	300	HP	223.8 kW. Emergency fire pump engine restricted to 500 hours of operation per rolling 12 months.	Purchased certified to the standards in NSPS Subpart IIII	0.1	LB/H		0.025	T/YR	PER ROLLING 12-MONTHS	0		SEE NOTES
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY FIRE PUMP (267-HP DIESEL)	LOW SULFUR DIESEL	267	HP			0.24	LB/H		0.4	G/B-HP-H	NSPS	0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Fire Pump	Diesel	0		The fire pump will be restricted to operate not more than 100 hr/yr.		0.09	G/B-HP-H		0.09	LB/H		0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Fire Pump Engine - 460 BHP	Diesel	0				0.09	G/B-HP-H		0.09	LB/H		0.01	T/YR	
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Emergency Firewater Pump	Diesel	16	Gal/hr			0.005	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil #2	0		The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		0.15	G/B-HP-H		0.11	LB/H		0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	FIRE WATER PUMP	diesel (ultra low sulfur)	1.86	MMBTU/H	500 H/Yr operation	Clean burning ULSD fuel and good combusion practices	0.15	G/B-HP-H		0			0		
*MI-0399	DETROIT EDISON--MONROE	12/21/2010	4 Diesel-fired quench pumps	Diesel fuel	252	HP	Each pump engine is 252 HP. They are limited to emergency use and subject to NSPS Subpart IIII.	Good combustion practices.	0.4	G/B-HP-H	QP1&QP2, EACH; TEST PROTOCOL	0.15	G/B-HP-H	QP3&QP4, EACH; TEST PROTOCOL	0		
	Astoria Energy LLC		Fire Pump	Ultra Low Sulfur Diesel				Clean Fuel	0.06	lb/MMBtu	1-hr average		LB/H	1-hour average			
	Catoctin Power LLC		Firewater Pump	Ultra Low Sulfur Diesel	370	kW		ULSD (<0.05% S); Good Combustion Practices	0.81	LB/H	3-hr average	100	hr/yr				
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	0.12	LB/H	1-hr average	0.15	g/b-hp-hr	1-hr average			
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	0.2	g/KW-hr	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Low sulfur fuel.	0.043	lb/MMBtu	1-hr average						
	Cricket Valley Energy Center		Fire Pump	ULSD	2.8	MMBtu/hr			0.032	lb/MMBtu		0.087	g/b-hp-hr				
	Pioneer Valley Energy Center		Fire Pump	ULSD	270	HP			0.2	g/KW-hr							
	Hess Newark Energy Center		Fire Pump	ULSD	270	HP			0.09	LB/H		0.009	T/YR				

Table D-E-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Fire Pump Diesel Internal Combustion Engines	Diesel	252	hp	Three (3) 252 hp fire pump diesel internal combustion engines.	Clean Fuel and Good Combustion Practices	0.19	G/KW-HR	3-HOUR AVERAGE	0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	Diesel	650	horsepower	Operating hour limit: 100 hr/yr	Compliance with NSPS IIII	0.15	LB/HR		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Firewater Pump 1	Diesel	282	HP		Compliance with NESHAP 40 CFR 63 Subpart ZZZZ and NSPS 40 CFR 60 Subpart IIII, and good combustion practices (use of ultra-low sulfur diesel fuel).	0.09	LB/H	HOURLY MAXIMUM	0.02	T/YR	ANNUAL MAXIMUM	0		
LA-0316	CAMERON LNG FACILITY	2/17/2017	firewater pump engines (8 units)	diesel	460	hp		Complying with 40 CFR 60 Subpart IIII	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Firewater pump Engines (4 units)	diesel	896	hp (each)		complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 3 Engine	Diesel Fuel	600	hp	Emergency engine with a limit of 100 hours/yr on operating hours for ready testing.	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 4 Engine	Diesel Fuel	600	hp	Emergency Engine limited to 100 hours/yr for ready tests	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Dieself fire pump engine (EUFIREPUMP in FGRICE)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (identified as EUFIREPUMP in FGRICE).	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	TEST PROTOCOL WILL SPECIFY AVG TIME	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.57	LB/H	HOURLY	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (EUFIREPUMP in FGRICE).	Certified engines. Good design, operation and combustion practices. Operational restrictions/limited use.	0.18	LB/H	TEST PROTOCOL SHALL SPECIFY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.66	LB/H	HOURLY	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Diesel particulate filter, good combustion practices and meeting NSPS Subpart IIII requirements.	0.66	LB/H	HOURLY	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 3 certified engine subject to NSPS IIII.	State of the art combustion design.	0.13	LB/H	HOURLY	0			0		
NJ-0084	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/10/2016	Emergency Diesel Fire Pump	ULSD	100	H/YR	Maximum heat Input Rate = 2.6 MMBtu/hr	use of ULSD a clean burning fuel, and limited hours of operation	0.1	LB/H		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month rolling total)	Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.3	G/HP-H	HR	0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Diesel Fired Well Pump	Diesel	2.7	MMBtu/hr	2.7 MMBtu/hr Diesel Fired Well Pump. Installed in 1966.	Limited Operation of 168 hr/yr.	0.31	LB/MMBTU		0			0		
CA-1191	VICTORVILLE 2 HYBRID POWER PROJECT	3/11/2010	EMERGENCY FIREWATER PUMP ENGINE	DIESEL	135	KW	135 KW (182 hp) IC Diesel-fired Emergency Firewater Pump Engine	OPERATIONAL RESTRICTION OF 50 HR/YR, OPERATE AS REQUIRED FOR FIRE SAFETY TESTING	0.2	G/KW-HR		0.15	G/B-HP-H		0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	0.2	G/KW-HR	AVERAGE OF 3 STACK TEST RUNS	0.03	T/YR	ROLLING 12 MONTH TOTAL	0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Firewater Pump Engine	distillate fuel oil	373	hp		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	0.1	G/KW-HR		0			0		

Table D-E-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	COMBUSTION DESIGN CONTROLS AND USAGE LIMITS	0.15	G/B-HP-H	3 HOURS	500	HOURS OF OPERATION	YEARLY	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY WATER PUMP	NO. 2 FUEL OIL	481	BHP	ANNUAL OPERATION LIMITED TO 200 HR,	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY FIRE PUMP	DIESEL	350	HP		ULTRA LOW SULFUR DIESEL AND GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	ANNUAL AVERAGE	0			0.15	G/HP-H	ANNUAL AVERAGE
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Fire Pump Engine	ULSD	2.7	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		0.15	G/B-HP-H	1 HR BLOCK AVERAGE	0.12	LB/H	1 HR BLOCK AVERAGE	0		
MD-0040	CPV ST CHARLES	11/12/2008	INTERNAL COMBUSTION ENGINE - EMERGENCY FIRE WATER PUMP	DIESEL	300	HP			0.15	G/B-HP-H		0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW SULFUR DIESEL	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES, LIMITED HOURS OF OPERATION, AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.15	G/B-HP-H		0.23	G/KW-H		0		
*MD-0044	COVE POINT LNG TERMINAL	6/9/2014	5 EMERGENCY FIRE WATER PUMP ENGINES	ULTRA LOW SULFUR DIESEL	350	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	EXCLUSIVE USE OF ULSD FUEL, GOOD COMBUSTION PRACTICES AND DESIGNED TO ACHIEVE EMISSION LIMITS	0.17	G/B-HP-H		0.23	G/KW-H		0		
*MI-0400	WOLVERINE POWER	6/29/2011	Fire Pump	Diesel	420	HP	Maximum operation was based on 500 hours per year.		0.14	LB/H	TEST PROTOCOL; BACT	0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	EU-FPENGINE: Diesel fuel fired emergency backup fire pump	diesel fuel	315	hp nameplate	This is a diesel fuel fired emergency backup fire mump. It has a capacity of 315 hp, nameplate, and uses diesel fuel ASTM D975 Grade 2-D S15. Ultra low sulfur diesel fuel (15ppmw); 100 hours per year operation for maintenance and readiness testing. NSPS IIII and NESHAP ZZZZ.	Proper combustion design and ultra low sulfur diesel fuel.	0.6	LB/H	TEST PROTOCOL WILL SPECIFY AVG. TIME	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Emergency Engine -- Diesel Fire Pump (EUFPENGINE)	Diesel	165	HP	A 165 hoursepower (hp) diesel-fueled emergency engine manufactured in 2013, iwth a heat input of 1.35 MMBTU/hr. Powers a fire pump used for back up during an emergency (EUFPENGINE). Restricted to 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.09	LB/MMBTU	TEST PROTOCOL	0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Eight 325 hp diesel firewater pumps	diesel	325	hp			0			0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Emergency diesel fire pump	Ultra Low Sulfur Distillate oil	0		The fire pump has a maximum heat input rate of 2.63 MMBtu/hr (approximately 250 HP) and is permitted for 100 hrs per year for testing and maintenance	Use of Ultra low sulfur distillate oil	0.15	G/B-HP-H		0.099	LB/H		0		
PA-0278	MOXIE LIBERTY LLC/ASYLUM POWER PL T	10/10/2012	Fire Pump	Diesel	0		The fire pump will be restricted to operate not more than 100 hr/yr.		0.09	G/B-HP-H		0.09	LB/H		0		
*PA-0286	MOXIE ENERGY LLC/PATRIOT GENERATION PLT	1/31/2013	Fire Pump Engine - 460 BHP	Diesel	0				0.09	G/B-HP-H		0.09	LB/H		0.01	T/YR	

Table D-E-6
Particulate Matter, 2.5 Microns ($PM_{2.5}$) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNE E	12/17/2013	Emergency Firewater Pump	Diesel	16	Gal/hr			0.005	T/YR	BASED ON 12-MONTH ROLLING TOTAL	0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil #2	0		The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		0.15	G/B-HP-H		0.11	LB/H		0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	FIRE WATER PUMP	diesel (ultra low sulfur)	1.86	MMBTU/H	500 H/Yr operation	Clean burning ULSD fuel and good combustion practices.	0.15	G/B-HP-H		0			0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Fire Pump Engine	Diesel	251	HP	Limited to 100 Hours/year.		0			0			0.15	G/HP-HR	
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
*MI-0399	DETROIT EDISON--MONROE	12/21/2010	4 Diesel-fired quench pumps	Diesel fuel	252	HP	Each pump engine is 252 HP. They are limited to emergency use and subject to NSPS Subpart IIII.	Good combustion practices	0.4	G/B-HP-H	QP1&QP2 EACH; TEST PROTOCOL	0.15	G/B-HP-H	QP3&QP4 EACH; TEST PROTOCOL	0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	0.15	G/B-HP-H	3-HR AVERAGE	0			0		
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	0.12	LB/H	1-hr average	0.15	g/b-hp-hr	1-hr average			
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr		Pipeline quality NG	0.2	g/KW-hr	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Low sulfur fuel.	0.043	lb/MMBtu	1-hr average						
	Cricket Valley Energy Center		Fire Pump	ULSD	2.8	MMBtu/hr			0.032	lb/MMBtu		0.087	g/b-hp-hr				

Table D-E-7
Sulfur Dioxide (SO_2) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	3/9/2016	One 422-hp emergency fire pump engine	ULSD	0		BACT limits equal to NSPS Subpart IIII limits. Will use IIII certified engine.	Use of ULSD	0.0015	% S IN ULSD		0			0		
*FL-0363	DANIA BEACH ENERGY CENTER	12/4/2017	Emergency Fire Pump Engine (422 hp)	ULSD	0		Limits equal Subpart IIII limits	Clean fuel	15	PPM S IN FUEL		0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	FUEL SUP. CERT. RECORDS OR SAMPLE TEST	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	FUEL SUPPLIER RECORDS OR FUEL SAMPL DATA	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Good combustion practices and meeting NSPS Subpart IIII requirements.	15	PPM	FUEL SUPPLIER RECORDS	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month rolling total)	Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.0015	LB/MMBTU		0			0		
FL-0324	PALM BEACH RENEWABLE ENERGY PARK	12/23/2010	Two emergency diesel firewater pump engines		250	HP	The permittee is authorized to construct a 1,000 gallon tank to store ULSD fuel oil for use in the emergency diesel firewater pump engines.		0.0015	% SULFUR		0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Emergency fire pump engine (300 HP)	USLD	29	MMBtu/hr	Emergency engine. BACT = NSPS IIII.	Good combustion practice and ULSD	15	PPM SULFUR IN FUEL		0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	ULTRA LOW SULFUR DISTILLATE AND USAGE LIMITS	0.0015	% SULFUR		0.043	LB/H		0		
LA-0192	CRESCENT CITY POWER	6/6/2005	DIESEL FIRED WATER PUMP				425 HP	GOOD ENGINE DESIGN AND PROPER OPERATING PRACTICES	0.61	LB/H	HOURLY MAXIMUM	0.02	T/YR	ANNUAL MAXIMUM	0.65	G/B-HP-H	ANNUAL AVERAGE
LA-0224	ARSENAL HILL POWER PLANT	3/20/2008	DFP DIESEL FIRE PUMP	DIESEL	310	HP	EQT-016	USE OF LOW-SULFUR FUELS, LIMITING OPERATING HOURS AND PROPER ENGINE MAINTENANCE	0.64	LB/H	MAX	0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Fire Pump Engine	ULSD	2.7	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		0.004	LB/H	1 HR BLOCK AVG	0			0		
MD-0040	CPV ST CHARLES	11/12/2008	INTERNAL COMBUSTION ENGINE - EMERGENCY FIRE WATER PUMP	DIESEL	300	HP			0		SEE NOTE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW SULFUR DIESEL	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE OF ULTRA-LOW DIESEL SULFUR FUEL, LIMITED HOURS OF OPERATION AND DESIGNED TO MEET SUBPART IIII LIMITS	0.0049	G/B-HP-H	3-HOUR BLOCK AVERAGE	0			0		
MN-0070	MINNESOTA STEEL INDUSTRIES, LLC	9/7/2007	DIESEL FIRE WATER PUMPS (<500 HP)				LIMITED TO 500 HOURS PER YEAR (12 MONTH ROLLING SUM); SULFUR CONTENT OF FUEL RESTRICTS SO2 EMISSIONS.	LIMITED SULFUR IN FUEL; LIMITED HOURS	0.05	% SULFUR	PERCENT BY WEIGHT IN FUEL (SULFUR)	0			0		
NC-0101	FORSYTH ENERGY PLANT	9/29/2005	IC ENGINE, EMERGENCY FIREWATER PUMP	DIESEL FUEL	11.4	MMBTU/H	usage limited to 200 h/yr		0.58	LB/H		0			0		
*NJ-0081	PSEG FOSSIL LLC SEWAREN GENERATING STATION	3/7/2014	Emergency diesel fire pump	Ultra Low Sulfur Distillate oil	0		The fire pump has a maximum heat input rate of 2.63 MMBtu/hr (approximately 250 HP) and is permitted for 100 hrs per year for testing and maintenance	Use of Ultra low sulfur fuel oil	0.002	LB/MMBTU		0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency fire pump engine	diesel	300	HP	223.8 kW. Emergency fire pump engine restricted to 500 hours of operation per rolling 12 months.		0.003	LB/H		0.0008	T/YR		0		
OK-0129	CHOUTEAU POWER PLANT	1/23/2009	EMERGENCY FIRE PUMP (267-HP DIESEL)	LOW SULFUR DIESEL	267	HP		LOW SULFUR DIESEL	0.11	LB/H		0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil #2	0		The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		0.003	LB/H		0			0		

Table D-E-7
Sulfur Dioxide (SO_2) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
SC-0113	PYRAMAX CERAMICS, LLC	2/8/2012	FIRE PUMP	DIESEL	500	HP	THE CONSTRUCTION PERMIT AUTHORIZES THE CONSTRUCTION OF ONE (1) FIRE PUMP. THIS PROCESS AND POLLUTANT INFORMATION IS FOR THIS ONE SINGLE FIRE PUMP.	USE OF LOW SULFUR FUEL DIESEL, SULFUR CONTENT LESS THAN 0.0015 PERCENT. OPERATING HOURS LESS THAN 100 HOURS PER YEAR FOR MAINTENACE AND TESTING.	0			0			0		
*WY-0070	CHEYENNE PRAIRIE GENERATING STATION	8/28/2012	Diesel Fire Pump Engine (EP16)	Ultra Low Sulfur Diesel	327	hp		Ultra Low Sulfur Diesel	0			0			0		
	Catoctin Power LLC		Firewater Pump	Ultra Low Sulfur Diesel	370	kW		ULSD (<0.05% S)	0.13	LB/H	3-hr average	100	hr/yr				
	Footprint Power Salem Harbor Development LP		Fire Pump	ULSD	80	MMBtu/hr			0.004	LB/H	1-hr average						
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Low sulfur fuel.	0.0014	lb/MMBtu	1-hr average						

Table D-E-8
Sulfuric Acid Mist (H_2SO_4) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 3 certified engine subject to NSPS IIII.	Good combustion practices, low sulfur fuel.	15	PPM	FUEL SUPPLIER RECORDS OR TEST DATA	0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Emergency fire pump	ultra low sulfur diesel	460	hp		Ultra low sulfur diesel with maximum sulfur content 0.0015 percent.	0.0001	LB/MMBTU	1 H	0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month rolling total)	Ultra Low Sulfur Diesel/Fuel (15 ppm max)	0.0001	LB/MMBTU		0			0		
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Fire Pump Engine	ULSD	2.7	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		0.0003	LB/H	1 HR BLOCK AVERAGE	0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EMERGENCY DIESEL ENGINE FOR FIRE WATER PUMP	ULTRA LOW SULFUR DIESEL	477	HP	40 CFR 60, SUBPART IIII, ULTRA LOW-SULFUR DIESEL FUEL, GOOD COMBUSTION PRACTICES	USE OF ULTRA-LOW DIESEL SULFUR FUEL, LIMITED HOURS OF OPERATION AND DESIGNED TO MEET SUBPART IIII LIMITS	0.0049	G/B-HP-H	3-HOUR BLOCK AVERAGE	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY FIREWATER PUMP	ULTRA LOW SULFUR DISTILLATE	3.25	MMBTU/H	EMERGENCY FIREWATER PUMP (450 BHP)		0.0012	LB/H		0.0001	T/YR	12-MONTH ROLLING TOTAL	0		
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Emergency Firewater Pump	Diesel	16	Gal/hr			0	T/PY		0			0		
	CPV Valley Energy Center Wawayanda, NY		Fire Pump	ULSD	325	bhp		Low sulfur fuel.	0.00003	lb/MMBtu	1-hr average						
	Woodbridge Energy Center		Fire Wate Pump	Ultra Low Sulfur Diesel					0.002	lb/MMBtu		15	ppm				

Table D-E-9
Greenhouse Gases (GHG) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	6/30/2017	Fire Pump Diesel Internal Combustion Engines	Diesel	252	hp	Three (3) 252 hp fire pump diesel internal combustion engines.	Good Combustion Practices	216	TPY (COMBINED)	YEARLY	0			0		
*LA-0312	ST. JAMES METHANOL PLANT	6/30/2017	DFP1-13 - Diesel Fire Pump Engine (EQT0013)	Diesel	650	horsepower	Operating hour limit: 100 hr/yr	Compliance with NSPS Subpart IIII	37	TPY		0			0		
LA-0313	ST. CHARLES POWER STATION	8/31/2016	SCPS Emergency Diesel Firewater Pump 1	Diesel	282	HP		Good combustion practices	0			0			0		
LA-0316	CAMERON LNG FACILITY	2/17/2017	firewater pump engines (8 units)	diesel	460	hp		good combustion practices	0			0			0		
LA-0317	METHANEX - GEISMAR METHANOL PLANT	12/22/2016	Firewater pump Engines (4 units)	diesel	896	hp (each)		complying with 40 CFR 60 Subpart IIII and 40 CFR 63 Subpart ZZZZ	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 3 Engine	Diesel Fuel	600	hp	Emergency engine with a limit of 100 hours/yr on operating hours for ready testing.	Proper operation and limits on hours operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
LA-0323	MONSANTO LULING PLANT	1/9/2017	Fire Water Diesel Pump No. 4 Engine	Diesel Fuel	600	hp	Emergency Engine limited to 100 hours/yr for ready tests	Proper operation and limits on hours of operation for emergency engines and compliance with 40 CFR 60 Subpart IIII	0			0			0		
MI-0421	GRAYLING PARTICLEBOARD	8/26/2016	Dieself fire pump engine (EUFIREPUMP in FGRICE)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (identified as EUFIREPUMP in FGRICE).	Good combustion and design practices.	56	T/YR	BASED UPON A 12-MO ROLLING TIME PERIOD	0			0		
MI-0423	INDECK NILES, LLC	1/4/2017	EUFPENGINE (Emergency engine--diesel fire pump)	Diesel	1.66	MMBTU/H	A 260 brake horsepower (bhp) diesel-fueled emergency engine manufactured in 2011 or later and a displacement of <10 liters/cylinder. Powers a fire pump used for a back up during an emergency (EUFPENGINE). Restricted to 1 hour/day, except during emergency conditions and stack testing, and 100 hours/year on a 12-month rolling time period basis.	Good combustion practices	13.58	T/YR	12 MO. ROLLING TIME PERIOD	0			0		
MI-0425	GRAYLING PARTICLEBOARD	5/9/2017	EUFIREPUMP in FGRICE (Diesel fire pump engine)	Diesel	500	H/YR	One diesel fire pump engine rated at 400 KW (EUFIREPUMP in FGRICE).	Good combustion and design practices.	56	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (South Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Good combustion practices.	85.6	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*MI-0433	MEC NORTH, LLC AND MEC SOUTH LLC	6/29/2018	EUFPENGINE (North Plant): Fire pump engine	Diesel	300	HP	A 300 HP diesel-fired emergency fire pump engine with a model year of 2011 or later, and a displacement of <30 liters/cylinder. Equipped with a diesel particulate filter.	Good combustion practices.	85.6	T/YR	12-MONTH ROLLING TIME PERIOD	0			0		
*MI-0435	BELLE RIVER COMBINED CYCLE POWER PLANT	7/16/2018	EUFPENGINE: Fire pump engine	Diesel	399	BHP	A 399 brake HP diesel-fueled emergency fire pump engine with a model year of 2011 or later, and a displacement of <10 liters/cylinder. The engine is an EPA Tier 3 certified engine subject to NSPS IIII.	Energy efficient design	86	T/YR	12-MO ROLLING TIME PERIOD	0			0		
NY-0103	CRICKET VALLEY ENERGY CENTER	2/3/2016	Emergency fire pump	ultra low sulfur diesel	460	hp		Good combustion practice and efficient engine design.	115	TPY	MO	0			0		
TX-0799	BEAUMONT TERMINAL	6/8/2016	Fire pump engines	diesel	0			Equipment specifications and good combustion practices. Operation limited to 100 hours per year.	72.16	T/YR		0			0		
*VA-0325	GREENSVILLE POWER STATION	6/17/2016	DIESEL-FIRED WATER PUMP 376 bph (1)	DIESEL FUEL	0		FWP-1: 104.0 tons/year (12-month rolling total)	Good Combustion Practices/Maintenance	104	T/YR	12 MO ROLLING TOTAL	0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Diesel Fired Well Pump	Diesel	2.7	MMBtu/hr	2.7 MMBtu/hr Diesel Fired Well Pump. Installed in 1966.	Limited Operation of 168 hr/yr.	37.2	T/YR		0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	1.55	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	0.0001	G/KW-H	AVERAGE OF 3 STACK TEST RUNS	0			0		
IA-0105	IOWA FERTILIZER COMPANY	10/26/2012	Fire Pump	diesel fuel	14	GAL/H	rated @ 235 KW	good combustion practices	91	T/YR	ROLLING 12 MONTH TOTAL	0			0		
*IL-0114	CRONUS CHEMICALS, LLC	9/5/2014	Firewater Pump Engine	distillate fuel oil	373	hp		Tier IV standards for non-road engines at 40 CFR 1039.102, Table 7.	72	T/YR		0			0		

Table D-E-9
Greenhouse Gases (GHG) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TWO (2) FIREWATER PUMP DIESEL ENGINES	DIESEL	371	BHP, EACH	THE TWO FIREWATER PUMP ENGINES, IDENTIFIED AS FP01 AND FP02, EXHAUSTING THROUGH TWO (2) VENTS.	GOOD ENGINEERING DESIGN AND FUEL EFFICIENT DESIGN	172	T/YR	12 CONSECUTIVE MONTH PERIOD	0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	527.4	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	DIESEL-FIRED EMERGENCY WATER PUMP	NO. 2 FUEL OIL	481	BHP	ANNUAL OPERATION LIMITED TO 200 HR,	GOOD COMBUSTION PRACTICES	527.4	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	FIRE PUMP		500	HP	OPERATION LIMITED TO 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	527.4	G/B-HP-H	3-HR AVERAGE	0			0		
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY FIRE PUMP	DIESEL	350	HP		PROPER OPERATION AND GOOD COMBUSTION PRACTICES	163	LB/MMBTU		0			163	LB/MMBTU	
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY FIRE PUMP	DIESEL	350	HP		PROPER OPERATION AND GOOD COMBUSTION PRACTICES	0.0014	LB/MMBTU		0			0.0014	LB/MMBTU	
LA-0254	NINEMILE POINT ELECTRIC GENERATING PLANT	8/16/2011	EMERGENCY FIRE PUMP	DIESEL	350	HP		PROPER OPERATION AND GOOD COMBUSTION PRACTICES	0.0061	LB/MMBTU		0			0.0061	LB/MMBTU	
*MA-0039	SALEM HARBOR STATION REDEVELOPMENT	1/30/2014	Fire Pump Engine	ULSD	2.7	MMBtu/hr	â‰¤ 300 hours of operation per 12-month rolling period S in ULSD: â‰¤0.0015% by weight		162.85	LB/MMBTU		0			0		
MD-0040	CPV ST CHARLES	11/12/2008	INTERNAL COMBUSTION ENGINE - EMERGENCY FIRE WATER PUMP	DIESEL	300	HP			3	G/B-HP-H		0			0		
*MI-0410	THETFORD GENERATING STATION	7/25/2013	EU-FPENGINE: Diesel fuel fired emergency backup fire pump	diesel fuel	315	hp nameplate	This is a diesel fuel fired emergency backup fire mump. It has a capacity of 315 hp, nameplate, and uses diesel fuel ASTM D975 Grade 2-D S15. Ultra low sulfur diesel fuel (15ppmw); 100 hours per year operation for maintenance and readiness testing. NSPS IIII and NESHAP ZZZZ.	Proper combustion design and ultra low sulfur diesel fuel.	15.6	T/YR	12-MO. ROLL TIME PERIOD	0			0		
*MI-0412	HOLLAND BOARD OF PUBLIC WORKS - EAST 5TH STREET	12/4/2013	Emergency Engine --Diesel Fire Pump (EUFPENGINE)	Diesel	165	HP	A 165 hoursepower (hp) diesel-fueled emergency engine manufactured in 2013, iwth a heat input of 1.35 MMBTU/hr. Powers a fire pump used for back up during an emergency (EUFPENGINE). Restricted to 500 hours/year on a 12-month rolling time period basis.	Good combustion practices	0.29	T/YR	12-MO ROLLING TIME PERIOD	0			0		
*OH-0352	OREGON CLEAN ENERGY CENTER	6/18/2013	Emergency fire pump engine	diesel	300	HP	223.8 kW. Emergency fire pump engine restricted to 500 hours of operation per rolling 12 months.		87	T/YR	PER ROLLING 12-MONTHS	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	COMBINED CYCLE UNITS #1 and #2	Natural Gas	3.4	MMCF/HR	The Permittee shall select and install any of the turbine options listed below (or newer versions of these turbines if the Department determines that such newer versions achieve equivalent or better emissions rates and exhaust parameters) 1. General Electric 7FA (GE 7FA) 2. Siemens SGT6-5000F (Siemens F) 3. Mitsubishi M501G (Mitsubishi G) 4. Siemens SGT6-8000H (Siemens H) The emissions listed are for the Siemens SGT6-8000H unit.		3665974	T/YR	12-MONTH ROLLING TOTAL FOR BOTH UNITS	0			0		
*PA-0291	HICKORY RUN ENERGY STATION	4/23/2013	EMERGENCY FIREWATER PUMP	ULTRA LOW SULFUR DISTILLATE	3.25	MMBTU/H	EMERGENCY FIREWATER PUMP (450 BHP)		33.8	T/YR	12-MONTH ROLLING BASIS	0			0		

Table D-E-9
Greenhouse Gases (GHG) RBLC Search - Fire Water Pump
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNITS	AVG TIME CONDITION	EMISSION LIMIT 2	UNITS	AVG TIME CONDITION	STANDARD EMISSION LIMIT	UNITS	AVG TIME CONDITION
*PA-0296	BERKS HOLLOW ENERGY ASSOC LLC/ONTELAUNEE	12/17/2013	Emergency Firewater Pump	Diesel	16	Gal/hr			19	T/YR		0			0		
*PR-0009	ENERGY ANSWERS ARECIBO PUERTO RICO RENEWABLE ENERGY PROJECT	4/10/2014	Emergency Diesel Fire Pump	ULSD Fuel Oil #2	0		The Emergency Fire Pump is rated at 335 BHP and limited to 500 hr/yr (emergency operations and testing and maintenance, combined).		91.3	T/YR		0			0		
*TX-0753	GUADALUPE GENERATING STATION	12/2/2014	Fire Water Pump Engine	ULSD	1.92	MMBtu/hr (HHV)	Shall not exceed 100 hours of non-emergency operation on a 12-month rolling basis and shall be operated and maintained in accordance with the manufacturer's recommendations.		15.71	T/YR		0			0		
*TX-0757	INDECK WHARTON ENERGY CENTER	5/12/2014	Firewater Pump Engine	ULSD	175	hp	Indeck will be equipped with one nominally rated 175-hp diesel-fired pump engine to provide water in the event of a fire. The fire water pump will operate a maximum of 52 hours of non-emergency operation on a 12-month rolling basis for testing and maintenance. The fire water pump engine emissions represent 0.003% of the total facility-wide GHG emissions.		5.34	T/YR	12-MONTH ROLLING TOTAL	0			0		
*TX-0758	ECTOR COUNTY ENERGY CENTER	8/1/2014	Firewater Pump Engine	Diesel	0				5	T/YR	12-MONTH ROLLING TOTAL	0			0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	FIRE WATER PUMP	diesel (ultra low sulfur)	1.86	MMBTU/H	500 H/Yr operation	Fuel-efficient design	30.5	T/YR	12 MO ROLLING AVG	0			0		
*WV-0025	MOUNDSVILLE COMBINED CYCLE POWER PLANT	11/21/2014	Fire Pump Engine	Diesel	251	HP	Limited to 100 Hours/year.		309	LB/H		0			0		
*WY-0076	ROCK SPRINGS FERTILIZER COMPLEX	7/1/2014	Fire Water Pump Engine	Diesel	200	horsepower	limited to 500 hours of operation	limited to 500 hours of operation per year	58	T/YR	ANNUAL	0			0		
*WY-0076	ROCK SPRINGS FERTILIZER COMPLEX	7/1/2014	Fire Water Pump Engine	Diesel	200	horsepower	limited to 500 hours of operation	limited to 500 hours of operation per year	58	T/YR	ANNUAL	0			0		
*IN-0180	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	527.4	G/B-HP-H	3-HR AVERAGE	0			0		
*IN-0173	MIDWEST FERTILIZER CORPORATION	6/4/2014	RAW WATER PUMP	DIESEL, NO. 2	500	HP	OPERATION NOT TO EXCEED 500 HOURS PER YEAR. INSIGNIFICANT ACTIVITY, WILL NOT BE TESTED.	GOOD COMBUSTION PRACTICES	527.4	G/B-HP-H	3-HR AVERAGE	0			0		
	Russell City Energy Company, LLC		Fire Pump	ULSD	300	HP			7.6	T/YR	12-month rolling						
	Kalama Energy Center		Fire pump engine	Ultra Low Sulfur Diesel	240	bhp			7.1	T/YR	12-month Rolling						

Table D-F-1
Greenhouse Gases (GHG) RBLC Search - Natural Gas Piping Components
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0316	CAMERON LNG FACILITY	02/17/2017 ACT	fugitive emissions		0			Implement a leak detection and repair (LDAR) program to minimize the leak	0								
TX-0824	JACKSON COUNTY GENERATING FACILITY	06/30/2017 ACT	Natural Gas Fugitives		0			weekly checks for leaks using audio, visual, and olfactory (AVO) sensing for natural gas leaks	693.3	T/YR							
TX-0827	PRAXAIR CLEAR LAKE PLANT	10/19/2017 ACT	HyCO FUGITIVES		0				0								
*TX-0830	PRAXIAR CLEAR LAKE	10/20/2017 ACT	HYCO FUGITIVES		0				0								
*TX-0832	EXXONMOBIL BEAUMONT REFINERY	01/09/2018 ACT	FUGITIVES		0			AVO	758	TON/YR							
*VA-0328	C4GT, LLC	04/26/2018 ACT	Equipment Leaks from Natural Gas Components		0		Work practice requirements	Best management practices to prevent, detect and repair leaks of natural gas from the piping components.	0								
*CO-0067	LANCASTER PLANT	6/4/2013	Fugitive emissions from leaking components		0			LDAR	0			0			0		
*CO-0068	LUCERNE GAS PROCESSING PLANT	1/13/2014	Fugitive emissions from leaking components		0		Fugitive emission component leaks from a natural gas processing plant associated with the expansion project.	LDAR	200	TON CO2E	PER YEAR	0			0		
*FL-0330	PORT DOLPHIN ENERGY LLC	12/1/2011	Fugitive GHG emissions		0		Process Piping fugitives	a gas and leak detection system will be used.	0			0			0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	FUGITIVE LEAKS FROM PIPING		0		WILL BE CONTROLLED BY A LEAK DETECTION AND REPAIR (LDAR) PROGRAM.	USE OF A LEAK DETECTION AND REPAIR (LDAR) PROGRAM FOR THE NATURAL GAS AND SNG PIPING	0			0			0		
*LA-0266	EUNICE GAS EXTRACTION PLANT	5/1/2013	Process Fugitives (16) (FUG 0001)		0			LDAR programs: NSPS KKK and LAC 33:III.2121	0			0			0		
*LA-0271	PLAQUEMINE NGL FRACTIONATION PLANT	5/24/2013	Fugitive Emissions (FUG-01)		0			Compliance with LDAR programs under 40 CFR 60 Subpart OOOO, LAC 33:III.2111, and LAC 33:III.2122	0			0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	FUGITIVE GHG EMISSIONS		0			IMPLEMENTATION OF AN AUDIO, VISUAL AND OLFACTORY (AVO) PROGRAM ON A WEEKLY BASIS	0			0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	EQUIPMENT LEAKS		0		NATURAL GAS PIPELINE COMPONENTS, INCLUDING VALVES, CONNECTORS, FLANGES, PUMP SEALS AND PRESSURE RELIEF VALVES WITHIN THE FACILITY BOUNDARY		0			0			0		
*PA-0301	CARPENTER COMPRESSOR STATION	3/31/2014	Equipment Leaks	Natural Gas	0				0			0			0		
*TX-0744	C3 PETROCHEMICALS, PDH CHOCOLATE BAYOU PLANT	6/12/2014	Process Fugitives		0		The Permittee shall implement the TCEQ 28VHP and 28 CNTQ leak detection and repair (LDAR) programs for fugitive emissions of methane. The Permittee shall implement an as-observed AVO program to monitor for fugitive emissions between instrumented monitoring. Permittee will install leakless pumps and compressors equipped with a shaft sealing system that prevents or detects emissions of VOC from the seal. Permittee will amend the permit if the fugitive equipment count and emission estimates of the count/emission estimate exceeds the representations in the application.		4	TPY OF CO2E	12-MONTH ROLLING TOTAL	0			0		
*TX-0744	C3 PETROCHEMICALS, PDH CHOCOLATE BAYOU PLANT	6/12/2014	Process Heaters		0				87	% THERM EFF	12-MONTH ROLLING TOTAL /TRAIN WITH MSS	230308	TPY CO2E	12-MONTH ROLLING TOTAL /TRAIN WITH MSS	0		
*TX-0746	NUEVO MIDSTREAM, RAMSEY GAS PLANT	11/18/2014	Process Fugitives		0				185	TPY CO2E/PLANT	12-MONTH ROLLING	0			0		
*TX-0747	LONE STAR NGL FRACTIONATORS, MONT BELVIEU GAS PLANT	4/16/2014	Fugitive Process Emission		0				0			0			0		
*TX-0748	FGE POWER, FGE TEXAS PROJECT	4/28/2014	SF6 Fugitive Emission Sources		0				0			0			0		
*TX-0748	FGE POWER, FGE TEXAS PROJECT	4/28/2014	Natural Gas Fugitive Emission Sources		0				0			0			0		
*TX-0753	GUADALUPE GENERATING STATION	12/2/2014	Components Fugitive Leak Emissions		0		Emissions from piping components (valves and flanges) associated with this project consist of methane (CH4) and carbon dioxide (CO2). Because a majority of the GHG fugitives comes from methane and the GWP is higher for methane, a conservative estimate was done to assume that all piping components are in a rich methane stream.		0			0			0		
*TX-0757	INDECK WHARTON ENERGY CENTER	5/12/2014	Components Fugitive Leak Emissions		0		Fugitive emissions from piping components (valves and flanges) associated with this project consist of methane (CH4) and CO2. Because a majority of the GHG fugitive emissions come from methane and the GWP is higher for methane than CO2, a conservative estimate was done to assume that all piping components are in a rich methane stream.		0			0			0		
*TX-0758	ECTOR COUNTY ENERGY CENTER	8/1/2014	Components Fugitive Leaks		0				0			0			0		
*TX-0766	GOLDEN PASS LNG EXPORT TERMINAL	9/11/2015	Fugitive Emissions		0			Work practice â€“leak detection and repair program	2569	TPY		0			0		

Table D-F-1
Greenhouse Gases (GHG) RBLC Search - Natural Gas Piping Components
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
LA-0257	SABINE PASS LNG TERMINAL	12/6/2011	Fugitive Emissions		0			conduct a leak detection and repair (LDAR) program	89629	TONS/YR	ANNUAL MAXIMUM	0			0		
TX-0612	THOMAS C. FERGUSON POWER PLANT	11/10/2011	Fugitive Natural Gas emissions NG-FUG	Natural Gas	0		Fugitive NG emissions from piping components		327.2	T/YR	365-DAY ROLLING AVERAGE	0			0		
TX-0612	THOMAS C. FERGUSON POWER PLANT	11/10/2011	Fugitive Natural Gas emissions NG-FUG	Natural Gas	0		Fugitive NG emissions from piping components		16.2	T/YR		0			0		
TX-0632	DEER PARK ENERGY CENTER LLC	11/29/2012	NG-FUG	Natural Gas	0		Fugitive Natural l Gas emissions from piping components (including valves and flanges)		0.11	T/YR	365-DAY ROLLING AVERAGE	0			0		
TX-0632	DEER PARK ENERGY CENTER LLC	11/29/2012	NG-FUG	Natural Gas	0		Fugitive Natural l Gas emissions from piping components (including valves and flanges)		2.84	T/YR	365-DAY ROLLING AVERAGE	0			0		
TX-0633	CHANNEL ENERGY ENERGY CENTER, LLC	11/29/2012	NG-FUG	Natural Gas	0		Fugitive Natural Gas emissions from piping components (including valves and flanges)		0.29	T/YR	365-DAY ROLLING AVERAGE	0			0		
TX-0633	CHANNEL ENERGY ENERGY CENTER, LLC	11/29/2012	NG-FUG	Natural Gas	0		Fugitive Natural Gas emissions from piping components (including valves and flanges)		7.44	T/YR	365-DAY ROLLING AVERAGE	0			0		

Table D-G-1
Greenhouse Gases (GHG) RBLC Search - Circuit Breakers
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
FL-0356	OKEECHOBEE CLEAN ENERGY CENTER	03/09/2016 ACT	Circuit breakers		0		Approximately 17 circuit breakers.	Leak prevention. Must have manufacturer-guaranteed leak rate no more than 0.5% per year. Must be equipped with leakage detection systems and alarms.	0.5	% LEAK PER YEAR							
*FL-0363	DANIA BEACH ENERGY CENTER	12/04/2017 ACT	Circuit breakers (two)		0		Sulfur hexafluoride (SF6) circuit breakers, leak rate no more than 0.5% per year	Certified leak rate < 0.5% per year	0.5	% LEAK PER YEAR							
*PA-0310	CPV FAIRVIEW ENERGY CENTER	09/02/2016 ACT	Circuit breakers		0		(8) sulfur hexafluoride insulated circuit breakers and are to be state-of-the-art sealed enclosed-pressure circuit breakers equipped with leak detection equipment that : 1) alerts the operator when 10% of the SF6 by weight has escaped for any breaker and 2) alerts the operator when a leak exceeds 5000 ppm from any breaker.	State-of-the-art sealed enclosed-pressure circuit breakers with leak detection	1500	PPM							
TX-0824	JACKSON COUNTY GENERATING FACILITY	06/30/2017 ACT	Sulfur hexafluoride (SF6) insulated Electrical Equipment		0		The facility will consist of Four SF6 insulated circuit breakers.	The use of circuit breakers with totally enclosed insulation systems equipped with a low pressure alarm and low pressure lockout is BACT	34.4	T/YR							
TX-0824	JACKSON COUNTY GENERATING FACILITY	06/30/2017 ACT	Natural Gas Fugitives		0			weekly checks for leaks using audio, visual, and olfactory (AVO) sensing for natural gas leaks	693.3	T/YR							
*VA-0328	C4GT, LLC	04/26/2018 ACT	Circuit Breakers - 6		0.5	%	Quantity 6 Annual leakage rate	Enclosed-pressure design with low-pressure detection system (with alarm).	0								
*VA-0328	C4GT, LLC	04/26/2018 ACT	Equipment Leaks from Natural Gas Components		0		Work practice requirements	Best management practices to prevent, detect and repair leaks of natural gas from the piping components.	0								
CA-1212	PALMDALE HYBRID POWER PROJECT	10/18/2011	ENCLOSED PRESSURE SF6 CIRCUIT BREAKERS		0		0.5% BY WT ANNUAL LEAKAGE RATE 10% BY WT LEAK DETECTION SYSTEM		9.56	T/YR	12-MONTH ROLLING TOTAL	0			0		
CA-1223	PIO PICO ENERGY CENTER	11/19/2012	CIRCUIT BREAKERS		0		3 switchyard and 2 generator breakers containing SF6.	INSTALL, OPERATE, AND MAINTAIN ENCLOSED-PRESSURE SF6 CIRCUIT BREAKERS WITH A MAXIMUM ANNUAL LEAKAGE RATE OF 0.5% BY WEIGHT	40.2	T/YR	TONS PER CALENDAR YEAR	0			0		
*IA-0107	MARSHALLTOWN GENERATING STATION	4/14/2014	circuit breakers		0		SF6 losses from circuit breakers		0.5	PERCENT LOSS	CALENDAR YEAR	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	ELECTRICAL CIRCUIT BREAKERS		0		THE SIX (6) BREAKER, IDENTIFIED AS EMISSIONS UNIT SF6, CONTAIN SULFUR HEXAFLUORIDE (SF6)	ALTERNATIVE TECHNOLOGY FULLY ENCLOSED CIRCUIT BREAKERS WITH LEAK DETECTION	0.0009	TONS	12 CONSECUTIVE MONTH PERIOD	0.5	% DESIGN LEAK RATE		0		
*IN-0166	INDIANA GASIFICATION, LLC	6/27/2012	ELECTRIC CIRCUIT BREAKER		0		CONTAINING SULFUR HEXAFLUORIDE (SF6) IDENTIFIED AS EMISSIONS UNIT FUG-SF6, PERMITTED IN 2012, WITH FUGITIVE GHG EMISSIONS CONTROLLED BY FULL ENCLOSURE.	USE OF FULLY ENCLOSED PRESSURIZED SF6 CIRCUIT BREAKERS WITH LEAK DETECTION (LOW PRESSURE ALARM)	0			0			0		
*MD-0041	CPV ST. CHARLES	4/23/2014	CIRCUIT BREAKERS		0		GHG BACT FOR THE CIRCUIT BREAKERS SHALL BE INSTALLATION OF STATE-OF-THE-ART CIRCUIT BREAKERS THAT ARE DESIGNED TO MEET ANSI C37.013 OR EQUIVALENT TO DETECT AND MINIMIZE SF6 LEAKS. LEAKS DETECTED SHALL BE REPAIRED WITHIN FIVE DAYS OF DISCOVERY; REPAIRS DOCUMENTED, AND ASSOCIATED REPAIR RECORDS MAINTAINED		0			0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	CIRCUIT BREAKERS		0			INSTALLATION OF STATE-OF-THE-ART CIRCUIT BREAKERS THAT ARE DESIGNED TO MEET ANSI C37.013 OR EQUIVALENT TO DETECT AND MINIMIZE SF6 LEAKS	0			0			0		
*MD-0042	WILDCAT POINT GENERATION FACILITY	4/8/2014	CIRCUIT BREAKERS		0			GHG BACT FOR THE CIRCUIT BREAKERS SHALL BE INSTALLATION OF STATE-OF-THE-ART CIRCUIT BREAKERS THAT ARE DESIGNED TO MEET ANSI C37.013 OR EQUIVALENT TO DETECT AND MINIMIZE SF6 LEAKS	0			0			0		
TX-0612	THOMAS C. FERGUSON POWER PLANT	11/10/2011	SF6 Insulated Electric Equipment_SF6-FUG		0		Fugitive emissions, SF6, from insulated electric equipment(circuit breakers)		131	T/YR	365-DAY ROLLING AVERAGE (USE AS CO2E)	0.006	LB/H		0		
TX-0632	DEER PARK ENERGY CENTER LLC	11/29/2012	SF6-FUG		0		SF6 Insulated Electrical Equipment (i.e., circuit breakers) consisting of one new 72 lb SF6 insulated generator circuit breaker.		0.0002	T/YR		0			0		
TX-0633	CHANNEL ENERGY ENERGY CENTER, LLC	11/29/2012	SF6-FUG	Natural Gas	0		Because the emissions from this unit are calculated to be over 99.9% carbon dioxide (CO2), the remaining pollutant emissions (CH4 and N2O) are not presented in the table.		0.0002	T/YR	365-DAY ROLLING AVERAGE	0			0		
*TX-0748	FGE POWER, FGE TEXAS PROJECT	4/28/2014	SF6 Fugitive Emission Sources		0				0			0			0		
*TX-0749	GOLDEN SPREAD ELECTRIC COOPERATIVE, ANTELOPE STATION	6/2/2014	Fugitive Emissions from SF6 Circuit Breakers		0		The circuit breakers associated with the proposed units will be insulated with SF6. The capacity of the circuit breakers associated with the proposed plant expansion is currently estimated to 2920 lbs SF6.		0		WORK PRACTICE	0			0		

Table D-G-1
Greenhouse Gases (GHG) RBLC Search - Circuit Breakers
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0749	GOLDEN SPREAD ELECTRIC COOPERATIVE, ANTELOPE STATION	6/2/2014	Fugitive Emissions from SF6 Circuit Breakers		0		The circuit breakers associated with the proposed units will be insulated with SF6. The capacity of the circuit breakers associated with the proposed plant expansion is currently estimated to 2920 lbs SF6.		0		WORK PRACTICE	0			0		
*TX-0753	GUADALUPE GENERATING STATION	12/2/2014	Fugitive SF6 Circuit Breaker Emissions		0		The circuit breakers associated with the proposed units will be insulated with SF6. The capacity of the circuit breakers associated with the proposed plant expansion is currently estimated to be two (2) breakers of 690 lb SF6 each.		0			0			0		
*TX-0757	INDECK WHARTON ENERGY CENTER	5/12/2014	Fugitive SF6 Circuit Breaker Emissions		0		The circuit breakers associated with the proposed units will be insulated with SF6. The capacity of the circuit breakers associated with the proposed plant expansion is currently estimated to be three (3) breakers with 24.2 lbs SF6 each, and eleven (11) HV power circuit breakers with 550 lbs SF6 each.		0			0			0		
*TX-0758	ECTOR COUNTY ENERGY CENTER	8/1/2014	Fugitive SF6 Circuit Breaker Emissions		0				0			0			0		
VA-0319	GATEWAY COGENERATION 1, LLC - SMART WATER PROJECT	8/27/2012	ELECTRIC CIRCUIT BREAKERS, (4)		60	LB/SF6	Enclosed pressure circuit breaker.	Enclosed pressure circuit breaker.	28.6	T/YR	12 MO AVG	0			0		

Table D-H-1
Volatile Organic Compounds (VOC) RBLC Search - Storage Tanks
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*AK-0084	DONLIN GOLD PROJECT	06/30/2017 ACT	Fuel Tanks	Diesel	0		Multiple fuel tanks, the largest of which are EUs 126 - 140 with capacities of 2.5 million gallons each. These tanks will emit VOCs.	Submerged Fill	1.7	TPY	YEARLY						
IN-0273	ST. JOSEPH ENERGY CENTER	06/22/2017 ACT	DIESEL STORAGE TANK TK11	DIESEL	650	GALLONS		THE USE OF GOOD DESIGN AND OPERATING PRACTICES. EACH TANK SHALL UTILIZE A FIXED ROOF.	0								
IN-0273	ST. JOSEPH ENERGY CENTER	06/22/2017 ACT	DIESEL STORAGE TANK TK50	DIESEL	5000	GALLONS		THE USE OF GOOD DESIGN AND OPERATING PRACTICES. EACH TANK SHALL UTILIZE A FIXED ROOF.	0								
LA-0276	BATON ROUGE JUNCTION FACILITY	12/15/2016 ACT	Tank 190 (EQT0036 - IFR)		0		volume = 48,000 bbls	Internal floating roof and submerged fill pipe	0								
LA-0276	BATON ROUGE JUNCTION FACILITY	12/15/2016 ACT	Vertical Fixed Roof Tanks 174, 175, 176		0		Tanks 174 and 175: volumes = 125,000 bbls Tank 176: volume = 250,000 bbls	Submerged fill pipes and pressure/vacuum vents	0								
LA-0277	COMONIMER-1 UNIT	09/01/2016 ACT	Storage Tanks (7 units)		0		T12-900 =12,690 gals - Fresh Diluent T12-910 = 376,012 gals - Hexene Product T12-911 = 376,012 gals - Hexene Product T12-912 = 846,027 gals - Octene Product T12-913 = 846,027 gals - Octene Product T12-914 = 287844 gals - Recycle Product T12-919 = 117,504 gals - Cyclics	Internal Floating roofs (IFR)	0								
LA-0277	COMONIMER-1 UNIT	09/01/2016 ACT	Hopper, Dryer, Unloading, Water Tank		0		Pellet Hopper D12-530 Pellet Dryer Blower F12-522 Pellet Water Tank F12-523 Raw Material Unloading		8.33	LBS/HR	HOURLY MAXIMUM						
LA-0277	COMONIMER-1 UNIT	09/01/2016 ACT	C10+ Storage Tank T12-917		88128	gallons		Submerged fill pipe	0								
LA-0277	COMONIMER-1 UNIT	09/01/2016 ACT	Co-Catalyst Storage Vessel and Feed Drum		0			Controlled by Co-Catalyst Vent Absorber	0								
LA-0304	DEEPWATER PORT COMPLEX	11/21/2016 ACT	Tanks 6413, 6415, 6418, 6419, 6420, 6421, & 6422 (EQTs 48, 49, 50, 51, 52, 53, & 54)		26093	BBL/D	Tank volume: 371,000 bbl each Throughput = per tank	External floating roof; complying with 40 CFR 60.112b(a)(2)(iii) during roof landings; limiting the amount of time between the cessation of pumping out product and the start of liquid heel and sludge removal from the tank floor; using a portable thermal oxidizer to control emissions from tank cleaning operations	0								
LA-0304	DEEPWATER PORT COMPLEX	11/21/2016 ACT	Tanks 6423, 6424, 6425, & 6426 (EQTs 55, 56, 57, & 58)		27397	BBL/D	Tank volume: 600,000 bbl each Throughput = per tank	External floating roof; complying with 40 CFR 60.112b(a)(2)(iii) during roof landings; limiting the amount of time between the cessation of pumping out product and the start of liquid heel and sludge removal from the tank floor; using a portable thermal oxidizer to control emissions from tank cleaning operations	0								
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017 ACT	MPST-14 - Methanol Product Surge Tank (EQT0019)	Methanol	41000	gallons	1358 gallons/min. Max Op Rate: 6 turnover/yr	Route emissions to Methanol Product Tanks A & B	0								
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017 ACT	MT-13 - Methanol Product Tank A (EQT0014)	Methanol	54400	barrels	714 MM gallons/yr	Internal Floating Roof Tank and Compliance with NESHAP Subpart G	0								
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017 ACT	OSMT1-13 - Crude Methanol Tank (EQT0017)	Methanol	54400	barrels	867 MM gallons/yr offspec methanol	Fixed Roof Tank with Scrubber & Compliance with NESHAP Subpart G	0								
*LA-0312	ST. JAMES METHANOL PLANT	06/30/2017 ACT	MT2-13 - Methanol Product Tank B (EQT0015)	methanol	54400	barrels	714 MM gallons/yr	Internal Floating Roof Tank and Compliance with NESHAP Subpart G	0								
LA-0314	INDORAMA LAKE CHARLES FACILITY	08/03/2016 ACT	oil tank FA-712 - 012		66150	gal		IFR with liquid mounted seal, double seal, or mechanical seal	0								
LA-0314	INDORAMA LAKE CHARLES FACILITY	08/03/2016 ACT	storm water surge tank TK-9 - 013		291410	gallons		fixed roof	0								
LA-0314	INDORAMA LAKE CHARLES FACILITY	08/03/2016 ACT	process water storage tanks TK-301A/B - 017		350000	gallons		EFR with primary and secondary seal, submerged fill pipe, and complying with 40 CFR 63 Subpart WW	0								
LA-0314	INDORAMA LAKE CHARLES FACILITY	08/03/2016 ACT	Unleaded Gasoline Tank TK-33		1000	gallons		Submerged fill pipe and LAC 33:III.2103	0								
LA-0314	INDORAMA LAKE CHARLES FACILITY	08/03/2016 ACT	Methanol Tank TK-2		1469	gallons		Submerged fill pipe and LAC 33:III.2103	0								
LA-0314	INDORAMA LAKE CHARLES FACILITY	08/03/2016 ACT	pyrolysis gasoline tank V-410		946996	gallons		Closed vent system and routed to a flare, Complying with 40 CFR 60 Subpart Kb and LAC 33:III.2103	0								
LA-0316	CAMERON LNG FACILITY	02/17/2017 ACT	condensate tanks (3 units)		965000	gallons (each)		closed vent system and control devices that meet 40 CFR 60 Subpart Kb	0								
LA-0316	CAMERON LNG FACILITY	02/17/2017 ACT	diesel tanks (2 units)		54144	gallons (each)		equipped with fixed roofs	0								
LA-0319	LAKE CHARLES CHEMICAL COMPLEX - COMONOMER-1 UNIT	09/01/2016 ACT	Storage tanks (7 tanks)		0		T12-900 = 12,690 gal T12-910 and T12-911 = 376,012 gal T12-912 and T12-913 = 846,027 gal T12-914 = 287,884 gal T12-919 = 117,5040 gal	Equipped with internal floating roofs (IFR)	0								
LA-0319	LAKE CHARLES CHEMICAL COMPLEX - COMONOMER-1 UNIT	09/01/2016 ACT	storage tank t12-917		88128	gal		Submerged fill pipe	0								
LA-0319	LAKE CHARLES CHEMICAL COMPLEX - COMONOMER-1 UNIT	09/01/2016 ACT	Catalyst Drum/Vessel		0			Closed vent and routing to a control device (vent absorber)	0								
MO-0090	OWENS CORNING INSULATION SYSTEMS, LLC	04/18/2017 ACT	cupola, open top, slag as a raw material, startup burner	metallurgical coke	0		startup burner is natural gas fired	good combustion practices, thermal oxidizer	0	LB/T	MELT, 3 HR AVG, EXCLUSIVE S&S						
OK-0175	WILDHORSE TERMINAL	06/29/2017 ACT	250,000 BBL EFR TANKS	NA	10.5	MMBBL/YR/TANK	Six (6) EFR tanks for storage of crude oil.	Equipped with EFRs, primary mechanical shoe seals, secondary seals, and drain-dry design.	6.43	TONS/YR/TANK	12-MONTH						
OK-0175	WILDHORSE TERMINAL	06/29/2017 ACT	350,000 BBL EFR TANKS	NA	14.7	MMBBL/YR/TANK	Eight (8) EFR tanks for storage of crude oil.	Equipped with EFRs, primary mechanical shoe seals, and drain-dry design.	7.47	TON/YR/TANK	12-MONTH						
OK-0175	WILDHORSE TERMINAL	06/29/2017 ACT	500,000 BBL EFR TANKS	NA	21	MMBBL/YR/TANK	Four (4) EFR tanks for storage of crude oil.	Equipped with EFR, primary mechanical shoe seals, secondary seals, and drain-dry design.	8.78	TON/YR/TANK	12-MONTH						
OK-0175	WILDHORSE TERMINAL	06/29/2017 ACT	20,000 BBL EFR TANK	NA	840	MMBBL/YR	One (1) EFR tank for storage of crude oil.	Equipped with EFR, primary mechanical shoe seal, secondary seal, and drain-dry design.	2.16	TON/YR	12-MONTH						
OK-0176	BPV GATHERING AND MARKETING CUSHING STATION	07/19/2017 ACT	250,000 BBL EFR TANKS	NA	54450000	BBL/TANK/YEAR	Twenty-four (24) EFR tanks for crude oil storage.	Equipped with EFR, primary mechanical shoe seals, secondary seals, and drain-dry design.	217.24	TONS/YEAR/FACILITY	12-MONTH						
TX-0800	CORPUS CRUDE OIL TERMINAL	06/22/2016 ACT	Storage Tanks		3655000	BBL/YR		Crude/Condensate storage tanks will have capacities greater than 25,000 gallons. Crude/condensate has a vapor pressure greater than 0.5 psia at 95Â°F. The storage tanks will be white internal floating roof tanks with mechanical shoe seals. New tanks will be of drain-dry design.	57.42	T/YR							
TX-0800	CORPUS CRUDE OIL TERMINAL	06/22/2016 ACT	Floating Roof Storage Tanks - Controlled Maintenance, Startup and Shutdown (MSS)		0		Floating roof storage tanks will be landed, degassed, and refloated for inspection.	Landing, degassing, and refilling events will be controlled by a VCU or carbon adsorption unit. Degassing will begin within 24 hours of roof landing. All new tanks will be of drain-dry design.	0.8	T/YR							
TX-0804	ADN UNIT	07/15/2016 ACT	Storage Tanks 10TFX022 and 10TFX057		0			60.18 Flare	3.4	T/YR							
TX-0807	SUNOCO PARTNERS NEDERLAND TERMINAL	08/05/2016 ACT	Tank Farm		1710	MM BBL / YR	18 new floating roof tanks. These tanks combined with existing storage vessels shall have a combined site-wide throughput limit of 1,710 MM Barrels for each of the following chemicals: Crude Oil, Crude Oil Condensate, Diesel, Fuel Oil, Lube Oil and Petroleum Naphtha	floating roof control BACT, and vent loading emissions to a portable combustion device.	600	T/YR							
TX-0812	CRUDE OIL PROCESSING FACILITY	10/31/2016 ACT	Petroleum Liquid Storage in Floating Roof tanks		0		(26) internal floating roof tanks with capacity of 125 MBbl/each in petroleum liquid service	Internal floating roof. Integrity of the floating roof seal must be verified through periodic visual inspections and seal gap measurements. The tank must be constructed with a drain dry sump, and an available connection to a control device.	3.04	T/YR	PER TANK						
TX-0813	ODESSA PETROCHEMICAL PLANT	11/22/2016 ACT	Petroleum Liquid Storage in Fixed Roof tanks		0			Submerged fill pipe, reflective or white exterior paint.	0.01	T/YR							

Table D-H-1
Volatile Organic Compounds (VOC) RBLC Search - Storage Tanks
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
TX-0815	PORT ARTHUR ETHANE SIDE CRACKER	01/17/2017 ACT	STORAGE TANKS		0		Slop oil/wastewater/sludge fixed roof tanks routed a thermal oxidizer	THERMAL OXIDIZER	0								
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Urea UF-85 Storage Tank		30440	gallons	Urea UF-85 Storage Tank. 30,440 gallon capacity	Wet Scrubber	0	LB/H		0			0		
*AK-0083	KENAI NITROGEN OPERATIONS	1/6/2015	Two (2) Methyl-diethanol Amine (MDEA) Storage Tanks		158420	gallons	Two (2) MDEA Storage Tanks with rated capacities of 158,420 gallons and 16,000 gallons.	Submerged Fill Design	0.002	T/YR	COMBINED	0			0		
*AR-0124	EL DORADO SAWMILL	8/3/2015	ELEVEN OIL STORAGE TANKS SN-14		0		SN-14, VARIOUS SIZES	ENCLOSED TANKS, TANKS ARE LIGHT COLOR	0.3	LB/H		0			0		
*AR-0124	EL DORADO SAWMILL	8/3/2015	THREE DIESEL STORAGE TANKS SN-15		0		SN-15, THREE, VARIOUS SIZES	TANKS ARE LIGHT COLOR	0.4	LB/H		0			0		
*AR-0124	EL DORADO SAWMILL	8/3/2015	ONE GASOLINE STORAGE TANK SN-16		0		SN-16, 5,890 GALLONS, ONE TANK	TANKS ARE LIGHT COLOR	0.022	LB/MBF		7.6	LB/MMSCF		0		
AZ-0046	ARIZONA CLEAN FUELS YUMA	4/14/2005	GROUP A STORAGE TANKS				THE GROUP A TANKS CONSIST OF SEVERAL TANKS (3.78 MILLION GALLONS TO 1.51 MILLION GALLONS) CONTAINING PETROLEUM LIQUIDS.	THE EMISSIONS FROM GROUP A STORAGE TANKS MUST BE COLLECTED BY A VAPOR COMPRESSION SYSTEM AND ROUTED TO THE REFINERY FUEL GAS SYSTEM. NO EMISSIONS ARE PERMITTED TO BE RELEASED INTO THE AIR EXCEPT FOR EQUIPMENT LEAKS.	0		SEE THE POLLUTANT NOTES	0			0		
AZ-0046	ARIZONA CLEAN FUELS YUMA	4/14/2005	GROUP D STORAGE TANKS				GROUP D STORAGE TANKS ARE SIX 850,000 GALLON TANKS STORING LIQUIFIED PETROLEUM GAS, BUTANE/BUTYLENE, OR OTHER PETROLEUM LIQUIDS.	THE TANKS ARE REQUIRED TO BE UNDER PRESSURE SO THAT NO EMISSIONS ARE EMITTED TO THE ATMOSPHERE.	0		SEE POLLUTANT NOTES	0			0		
AZ-0046	ARIZONA CLEAN FUELS YUMA	4/14/2005	SOUR WATER TANK				EQUIPMENT IDENTIFIED BY ID # T-11100	FIXED ROOF TANK WITH INTERNAL FLOATING ROOF. HEAD SPACE ROUTED TO A CARBON ADSORPTION SYSTEM.	0		SEE NOTE	0			0		
AZ-0046	ARIZONA CLEAN FUELS YUMA	4/14/2005	GROUP B STORAGE TANKS				THIS GROUP OF TANKS INCLUDES 47 DIFFERENT TANKS RANGING IN SIZE FROM 378,000 GALLONS CAPACITY TO 7,560,000 GALLONS CAPACITY.	INTERNAL FLOATING ROOFS WITH HEADSPACE ROUTED TO THE TANK FARM THERMAL OXIDIZER.	0		SEE NOTE	0			0		
CA-1180	CHEVRON PRODUCTS CO	8/24/2011	Recovered oil storage tank, external floating roof with dome		0		This BACT determination is achieved in practice since the South Coast has a rule 1178, which requires domes on external floating roof tanks storing materials with greater than or equal to 3.0 psia and greater than 19,815 gallons.	Requires domes on external floating roof tanks.	0		SEE NOTES	0			0		
FL-0285	PROGRESS BARTOW POWER PLANT	1/26/2007	TWO NOMINAL 3.5 MILLION GALLON DISTILLATE FUEL OIL STORAGE TANKS	FUEL OIL					0		SEE NOTE	0			0		
FL-0286	FPL WEST COUNTY ENERGY CENTER	1/10/2007	TWO NOMINAL 6.3 MILLION GALLON DISTILLATE FUEL OIL STORAGE TANKS	DISTILLATE FUEL OIL			CAPACITY: 6.3 MILLION GALLON		0		SEE NOTE	0			0		
*FL-0328	ENI - HOLY CROSS DRILLING PROJECT	10/27/2011	Storage Tanks	Diesel	0		Various diesel storage tanks ranging from 50 gal to 610,000 gal.	Use of good maintenance practices based on the current manufacturerâ€™s specifications for each tank	0.27	T/YR	12-MONTH ROLLING	0			0		
*FL-0346	LAUDERDALE PLANT	4/22/2014	Three ULSD fuel oil storage tanks		0		Three tanks: 80000 bbl, 150000 bbl, and 75000 bbl	The Department sets BACT for these storage tanks to minimize VOC emissions as the use of pressure relief valves/vapor condensers. In lieu of pressure relief valves/vapor condensers, FPL as an alternative, can use tanks with internal floating roofs or the equivalent to minimize VOC emissions.	0			0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Storage Tanks	Diesel	0			Use of good maintenance practices to minimize fugitive emissions, including minimizing the release of emissions from valves, pump seals, and connectors.	0.71	T/YR	PER YEAR ON A 12 MONTH ROLLING TOTAL	0			0		
*FL-0347	ANADARKO PETROLEUM CORPORATION - EGOM	9/16/2014	Condensate Tank		0			Use of good maintenance practices to minimize fugitive emissions, including minimizing the release of emissions from valves, pump seals, and connectors.	9.26	T/YR	PER YEAR ON A 12-MONTH ROLLING TOTAL	0			0		
IA-0084	ADM POLYMERS	11/30/2006	LAIDIG TANKS		3	T/H	THERE ARE THREE (3) IDENTICAL TANKS. EACH IS ALSO RATED AT 1,200 CUBIC FEET.		80	T/YR	365 DAY ROLLING TOTAL	3500	PPMD	30 DAY ROLLING AVERAGE	0		
IA-0084	ADM POLYMERS	11/30/2006	ANTIFOAM STORAGE TANK		13000	GAL			0.01	T/YR	ROLLING 12 MONTH TOTAL	0			0		
IA-0084	ADM POLYMERS	11/30/2006	BDO STORAGE TANK		86000	GAL			0.01	T/YR	ROLLING 12 MONTH TOTAL	0			0		
IA-0084	ADM POLYMERS	11/30/2006	BROTH HOLDING TANKS		145000	GAL	THERE ARE 5 IDENTICAL BROTH HOLDING TANKS IN THIS PROJECT.		0.02	LB/H	AVERAGE OF THREE (3) 1-HR TEST RUNS	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	DENATURED ETHANOL STORAGE TANK		2000000	GALLON STORAGE	ADM IS INSTALLING 4 - TWO MILLION GALLON EACH DENATURED ETHANOL STORAGE TANKS. PERMITS 07-A-538-P, 07-A-564-P, 07-A-565-P AND 07-A-566-P.	INTERNAL FLOATING ROOF	1.26	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	WASTEWATER TREATMENT PLANT (WWTP) AERATION TANK		1500000	GALLON STORAGE	PERMIT 07-A-539-P		20	PPMVD	AVERAGE OF 3 TEST RUNS	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	ALCOHOL DAY TANK (200 PROOF)		500000	GALLON STORAGE	THE PROJECT INCLUDES THREE IDENTICAL 500,000 GALLON 200 PROOF ALCOHOL STORAGE TANKS. PERMITS 07-A-560-P, 07-A-561-P AND 07-A-581-P.	INTERNAL FLOATING ROOF	1.14	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	ALCOHOL QUALITY CONTROL TANK		500000	GALLON STORAGE	PERMIT 07-A-562-P. TANK IS USED TO ENSURE THAT DENATURED ETHANOL MEETS PRODUCT SPECIFICATIONS.	INTERNAL FLOATING ROOF	1.22	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	ALCOHOL RECLAIM TANK		500000	GALLON STORAGE	PERMIT 07-A-563-P. TANK IS USED TO REMIX DENATURED ETHANOL TO CORRECT SPECIFICATIONS IF DETECTED AS OUT OF SPEC IN THE QUALITY CONTROL TANK.	INTERNAL FLOATING ROOF	1.22	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	DENATURANT STORAGE TANK		500000	GALLON STORAGE	PERMIT 07-A-567-P.	INTERNAL FLOATING ROOF	0.51	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	CORROSION INHIBITOR STORAGE TANK		8500	GALLON STORAGE	PERMIT 07-A-568-P		0.85	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0088	ADM CORN PROCESSING - CEDAR RAPIDS	6/29/2007	190 PROOF TANK		100000	GALLON STORAGE	PERMIT 07-A-569-P. TANK HOLDS 190 PROOF ALCOHOL PRIOR TO ALCOHOL GOING THROUGH DISTILLATION AND DEHYDRATION.	INTERNAL FLOATING ROOF	3.18	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0089	HOMELAND ENERGY SOLUTIONS, LLC, PN 06-672	8/8/2007	DENATURED ETHANOL STORAGE TANK, T61 AND T62 (07-A-972P AND 07-A-973P)		1500000	GAL	THERE ARE TWO TANKS FOR THE DENATURED ETHANOL STORAGE TANK. THE PERMITS ARE 07-A-972P AND 07-A-973P.	INTERNAL FLOATING ROOF	0.36	T/YR	BACT	0			0		
IA-0089	HOMELAND ENERGY SOLUTIONS, LLC, PN 06-672	8/8/2007	200 PROOF ANYHDROUS ETHANOL STORAGE TANK, T63 (07-A-974P)		200000	GAL	STORES ANHYDROUS ETHANOL.	INTERNAL FLOATING ROOF	0.61	T/YR	BACT	0			0		
IA-0089	HOMELAND ENERGY SOLUTIONS, LLC, PN 06-672	8/8/2007	DENATURANT STORAGE TANK, T64 (07-A-975P)		200000	GAL		INTERNAL FLOATING ROOF	1.49	T/YR	BACT	0			0		
IA-0089	HOMELAND ENERGY SOLUTIONS, LLC, PN 06-672	8/8/2007	190-PROOF ETHANOL STORAGE TANK, T65 (07-A-976P)		200000	GAL		INTERNAL FLOATING ROOF	0.61	T/YR		0			0		
IA-0089	HOMELAND ENERGY SOLUTIONS, LLC, PN 06-672	8/8/2007	ADDITIVE (CORROSION INHIBITOR) TANK, T66 (07-A-977P)		2300	GAL			0.05	T/YR	BACT	0			0		
IA-0092	SOUTHWEST IOWA RENEWABLE ENERGY	4/19/2007	ETHANOL STORAGE TANKS		1500000	GAL		INTERNAL FLOATING ROOF	0		SEE NOTE	0			0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	ALCOHOL QC TANK				200 PROOF ETHANOL	INTERNAL FLOATING ROOF	0.28	T/YR	12-MONTH ROLLING TOTAL	0			0		

Table D-H-1
Volatile Organic Compounds (VOC) RBLC Search - Storage Tanks
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	CORROSION INHIBITOR TANK					CARBON FILTRATION SYSTEM	0.062	T/YR	12-MONTH ROLLING TOTAL	0			0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	ETHANOL STORAGE TANKS (2)				2 STORAGE TANKS, 2 MMGAL EACH,	INTERNAL FLOATING ROOF	0			0			0		
IA-0095	TATE & LYLE INDGREDIENTS AMERICAS, INC.	9/19/2008	GASOLINE STORAGE TANK				250,000 GALLONS	INTERNAL FLOATING ROOF	0			0			0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Diesel Belly Tanks		45000	gal/yr	There are two (2) identical storage tanks		0.1	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0			0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Methyl-diethanol Amine (MDEA) Storage Tank		220000	gallons		Nitrogen Gas Blanket	0.1	T/YR	ROLLING TWELVE (12) MONTH TOTAL	0			0		
*IA-0106	CF INDUSTRIES NITROGEN, LLC - PORT NEAL NITROGEN COMPLEX	7/12/2013	Urea Uf-85 Storage Tank		79250	gallons		packed bed scrubber	0.046	LB/H	AVERAGE OF THREE (3) STACK TEST RUNS	0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	TURBINE LUBE OIL STORAGE TANKS		6800	GALLONS EACH	THESE SIX (6) STORAGE TANKS ARE IDENTIFIED AS TK01-TK06	GOOD COMBUSTION PRACTICE AND FUEL SPECIFICATION	0			0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY GENERATOR ULSD TANKS		550	GALLONS EACH	THE TWO (2) TANKS ARE IDENTIFIED AS TK07 AND TK08	GOOD DESIGN AND OPERATING PRACTICES	0			0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	FIRE PUMP ENGINE ULSD TANKS		70	GALLONS EACH	THE TWO (2) TANKS ARE IDENTIFIED AS TK09 AND TK10	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	0			0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	VEHICLE GASOLINE DISPENSING TANK		650	GALLONS	TANK, IDENTIFIED AS TK11, IS EQUIPPED WITH SUBMERGED FILL AND STAGE 1 VAPOR BALANCE.	SUBMERGED FILL PIPES AND STAGE 1 VAPOR CONTROL	0			0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	VEHICLE DIESEL TANK		650	GALLONS	THIS TANK IS IDENTIFIED AS TK12	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	0			0			0		
*IN-0158	ST. JOSEPH ENEGRY CENTER, LLC	12/3/2012	EMERGENCY GENERATOR ULSD TANK		300	GALLONS	THIS TANK IS IDENTIFIED AS TK50	GOOD CUMBUSTION PRACTICE AND FUEL SPECIFICATION	0			0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	TWO (2) UAN STORAGE TANKS		30000	TONS UAN, EACH		WHITE TANK SHELLS, USE SUBMERGED FILL.	0			0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	THREE (3) UAN DAY TANKS		750	TONS UAN, EACH		WHITE TANK SHELLS, SUBMERGED FILL	0			0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	ONE (1) DIESEL EXHAUST FLUID (DEF) TANK		100	TONS UAN		WHITE TANK SHELL, SUBMERGED FILL	0			0			0		
*IN-0179	OHIO VALLEY RESOURCES, LLC	9/25/2013	TWO (2) NITRIC ACID STORAGE TANKS		806842	TONS OF 57% ACID PER YEAR.	PERMIT LIMITS NITRIC ACID THROUGHPUT TO 806,842 TONS OF 57% ACID PER YEAR.	SUBMERGED FILL	0.0015	LB NOX/TON 57% ACID	3-HR AVERAGE	0			0		
LA-0182	ST. ROSE TERMINAL	2/16/2005	1,286,714 GAL HEAVY FUEL OIL STORAGE TANKS (2)				VERTICAL FIXED ROOF TANKS. MAXIMUM TRUE VAPOR PRESSURE <= 0.07 PSIA.		71.96	T/YR	ANNUAL MAXIMUM, SEE NOTE	0			0		
LA-0182	ST. ROSE TERMINAL	2/16/2005	3,383,615 HEAVY FUEL OIL STORAGE TANKS (2)				VERTICAL FIXED ROOF TANKS. MAXIMUM TRUE VAPOR PRESSURE <= 0.07 PSIA.		71.96	T/YR	ANNUAL MAXIMUM, SEE NOTE	0			0		
LA-0182	ST. ROSE TERMINAL	2/16/2005	2,541,471 GAL HEAVY FUEL OIL STORAGE TANKS (2)				VERTICAL FIXED ROOF TANKS. MAXIMUM TRUE VAPOR PRESSURE <= 0.07 PSIA.		71.9	T/YR	ANNUAL MAXIMUM, SEE NOTE	0			0		
LA-0182	ST. ROSE TERMINAL	2/16/2005	4,219,180 GAL HEAVY FUEL OIL STORAGE TANKS (11)				VERTICAL FIXED ROOF TANKS. MAXIMUM TRUE VAPOR PRESSURE <= 0.07 PSIA.		71.9	T/YR	ANNUAL MAXIMUM, SEE NOTE	0			0		
LA-0203	OAKDALE OSB PLANT	6/13/2005	10,000 GAL DIESEL TANK					SUBMERGED FILL PIPE	0.001	LB/H	HOURLY MAXIMUM	0			0		
LA-0203	OAKDALE OSB PLANT	6/13/2005	5000 GAL GASOLINE TANKS (2)					SUBMERGED FILL PIPE	0.15	LB/H	HOURLY MAXIMUM	0			0		
LA-0211	GARYVILLE REFINERY	12/27/2006	EXTERNAL FLOATING ROOF STORAGE TANKS				INCLUDES EPNS 15-74, 18-74 - 25-74, 29-74 - 35-74, 63-74 - 65-74, 68-74, 71-74, 77-74 - 80-74, 90-74, 93-80 - 96-80, 3-05, 36-08 - 44-08, & 57-08.	EXTERNAL FLOATING ROOFS; COMPLY WITH 40 CFR 63 SUBPART CC	0		SEE NOTE	0			0		
LA-0211	GARYVILLE REFINERY	12/27/2006	FIXED ROOF STORAGE TANKS				INCLUDES EPNS 27-74, 28-74, 36-74 - 45-74, 66-74, 67-74, 73-74 - 76-74, 97-80 - 99-80, 120-91, 34-08, & 35-08.	COMPLY WITH 40 CFR 63 SUBPART CC	0		SEE NOTE	0			0		
LA-0211	GARYVILLE REFINERY	12/27/2006	INTERNAL FLOATING ROOF STORAGE TANKS				INCLUDES EPNS 16-74, 17-74, & 47-08.	INTERNAL FLOATING ROOFS; COMPLY WITH 40 CFR 63 SUBPART CC	0		SEE NOTE	0			0		
LA-0212	ZACHARY STATION	2/1/2007	11.75 MM GAL GASOLINE/DISTILLATES TANKS (T-1 & T-14)		423	MM GALS/YR		INTERNAL FLOATING ROOFS	3.16	LB/H	HOURLY MAXIMUM	0			0		
LA-0212	ZACHARY STATION	2/1/2007	6.61 MM GAL GASOLINE/DISTILLATES TANK (T-4)		238	MM GALS/YR		INTERNAL FLOATING ROOF	2.17	LB/H	HOURLY MAXIMUM	0			0		
LA-0212	ZACHARY STATION	2/1/2007	6.61 MM GAL GASOLINE/DISTILLATES TANK (T-9)		238	MM GALS/YR		INTERNAL FLOATING ROOF	2.11	LB/H	HOURLY MAXIMUM	0			0		
LA-0212	ZACHARY STATION	2/1/2007	394,813 GAL TRANSMIX TANK (T-13)		14.21	MM GALS/YR		INTERNAL FLOATING ROOF	0.66	LB/H	HOURLY MAXIMUM	0			0		
LA-0213	ST. CHARLES REFINERY	11/17/2009	TANKS - FOR BENZENE, XYLENE, SULFOLANE, PAREX, INTERMEDIATE				16 IFR TANKS	EQUIPPED WITH INTERNAL FLOATING ROOFS FOLLOWED BY THERMAL OXIDIZERS	0		SEE NOTE	0			0		
LA-0213	ST. CHARLES REFINERY	11/17/2009	TANKS - FOR HEAVY MATERIALS				39 FIXED ROOF TANKS	EQUIPPED WITH FIXED ROOF AND COMPLY WITH 40 CFR 63 SUBPART CC	0		SEE NOTE	0			0		
LA-0213	ST. CHARLES REFINERY	11/17/2009	TANKS - FOR SPENT CAUSTIC				2 FIXED ROOF TANKS	FIXED ROOF AND SUBMERGED FILL LINES (LAC 33:III.2103)	0		SEE NOTE	0			0		
LA-0213	ST. CHARLES REFINERY	11/17/2009	TANKS - FOR LIGHT MATERIALS, SOUR WATER, NAPHTHA, RAFFINATE				38 TANKS	EQUIP WITH FLOATING ROOFS (IFR OR EFR) & COMPLY WITH 40 CFR 60 SUBPART KB OR 40 CFR 63 SUBPART CC	0		SEE NOTE	0			0		
LA-0228	BATON ROUGE JUNCTION FACILITY	11/2/2009	EQT026-EQT030 FIVE GASOLINE TANKS (T001-T005)		240000	BBL (EACH)		INTERNAL FLOATING ROOFS AND SUBMERGED FILL PIPES	59.7	T/YR	12 CONSECUTIVE MONTH TOTAL	0			0		
LA-0228	BATON ROUGE JUNCTION FACILITY	11/2/2009	EQT031-EQT035 FIVE DISTILLATE TANKS (T006-T010)		240000	BBL (EACH)		SUBMERGED FILL PIPES AND PRESSURE/VACUUM VENTS	45	T/YR	12 CONSECUTIVE MONTH TOTAL	0			0		
LA-0228	BATON ROUGE JUNCTION FACILITY	11/2/2009	FUG003 TANK CLEANING (TC01)					LIMIT TANK CLEANING TO 2 TIMES PER ANY 12 CONSECUTIVE MONTH PERIOD. MINIMIZE THE TIME BEFORE REMOVING LIQUID HEELS AND SLUDGE FROM THE TANK BOTTOM	16.07	T/YR	12 CONSECUTIVE MONTH TOTAL	0			0		
LA-0232	STERLINGTON COMPRESSOR STATION	6/24/2008	CONDENSATE STORAGE TANK		5760	BBL/YR	100 BBL VOLUME	SUBMERGED FILL PIPE	1.28	LB/H	HOURLY MAXIMUM	5.62	T/YR	ANNUAL MAXIMUM	0		
LA-0237	ST. ROSE TERMINAL	5/20/2010	HEAVY FUEL OIL STORAGE TANKS (18)		0		VOLUME = 4.22 MILLION GALLONS EACH	FIXED ROOF	67.53	T/YR	(CAP FOR 18 TANKS)	0			0		
LA-0265	ST. CHARLES REFINERY	10/2/2012	FR Storage Tanks EQT0087 and EQT0088		0		EQT0087 (95-52, 150-22) = 150,000 bbls EQT0088 (94-53, 150-23) = 150,000 bbls	Comply with 40 CFR 63 Subpart CC (Group 2)	0			0			0		
LA-0265	ST. CHARLES REFINERY	10/2/2012	EFR Storage Tank EQT0169		0		98-75, 150-1 = 180,000 bbls	Comply with 40 CFR 60 Subpart Kb using an EFR	0			0			0		
*LA-0272	AMMONIA PRODUCTION FACILITY	3/27/2013	AMDEA STORAGE TANK (2009-F)		0		395,000 GALLONS		0			0			0		
*MA-0040	CHELSEA TERMINAL	8/20/2008	Heated Residual Oil Storage Tanks		0		Residual oil storage tanks emission collection system is designed to capture 95% of vapor laden air from tank vent system.	Regenerative Thermal Oxidizer with 99% destruction efficiency	7.7	T/YR	MONTH	15.4	TONS	12 MONTH ROLLING	0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	1,470,000-gallon crude methanol tank with fixed roof venting to a water scrubber		0			Water scrubber	0			0			0		

Table D-H-1
Volatile Organic Compounds (VOC) RBLC Search - Storage Tanks
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Two 2,940,000-gallon methanol day tanks with internal floating roofs		0			Internal floating roof, white or aluminum surface	0			0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Four 8,400,000-gallon MTG product gasoline tanks with internal floating roofs		0			internal floating roof, white or aluminum surface	0			0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	Two 630,000-gallon MTG gasoline day tanks with internal floating roofs		0			internal floating roof, white or aluminum surface	0			0			0		
*MS-0092	EMBERCLEAR GTL MS	5/8/2014	One 714,000-gallon MTG heavy gasoline day tank with internal floating roof		0			internal floating roof, white or aluminum surface	0			0			0		
*NJ-0083	COLONIAL PIPELINE CO LINDEN JCT TANK FARM	3/11/2014	26 Internal floating roof storage tanks for materials with RVP <= 15	Material with RVP <= 15	2072718	MGAL/YR	The throughput of 2,072,718.0 MGAL/YR is for 26 tanks. The tanks have welded steel internal floating roofs with a double seal configuration that comply with the requirements of New Jersey Enhanced VOC RACT rules (N.J.A.C. 7:27-16). The welded steel roofs are designed to eliminate deck seam losses and VOC emissions from roof landing and cleaning operations are vented to a vapor combustion unit (95% VOC control).	Vapor combustion unit for cleaning & roof landings	0			0			0		
NM-0050	ARTESIA REFINERY	12/14/2007	STORAGE TANKS	NAPTHA	100000	BBL	NAPTHA STORAGE TANK	EXTERNAL FLOATING ROOF TANK EQUIPPED WITH DOUBLE SEALS ;	0		SEE NOTE	0			0		
NM-0050	ARTESIA REFINERY	12/14/2007	SOUR WATER TANK		20000	BBL		EXTERNAL FLOATING ROOF EQUIPPED WITH DOUBLE SEALS	0		SEE NOTE	0			0		
NV-0047	NELLIS AIR FORCE BASE	2/26/2008	FUEL TANKS/LOADING RACKS/FUEL DISPENSING	GASOLINE	500000	Gal/mo.	THE FACILITY HAS: (1) 3 ABOVE-GROUND AND 2 UNDERGROUND GASOLINE TANKS; (2) 3 LOADING RACKS, ONE EACH FOR JP-8, GASOLINE, AND DIESEL; (3) 10 NEW FUEL DISPENSING STATIONS APPROVED IN THIS PERMITTING ACTION; (4) ONE EXISTING GASOLINE DISPENSING STATION WITH 9 NOZZLES; (5) 73 ABOVE-GROUND STORAGE TANKS FOR DIESEL OR JP-8; (6) 13 UNDER-GROUND STORAGE TANKS FOR DIESEL OR JP-8. THE GASOLINE STATION CONSISTING OF UNITS J026-J034 (9 NOZZLES) FOR GASOLINE DISPENSING IS SELECTED TO SHOW THE BACT DETERMINATIONS.	STAGE 1 AND STAGE 2 VAPOR RECOVERY SYSTEMS AND LIMIT OF REID VAPOR PRESSURE TO 10 PSI	0.0033	LB/GAL		1650	LB/MO		0.0033	LB/GAL	
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	FIXED ROOF TANKS (8)	DIESEL FUEL OIL	262500	GAL/D	EIGHT FUEL TANKS, 3 MM GALLONS EACH TANK. OUTSIDE TANKS. WHITE SHELL. 40 FEET HIGH, 115 FOOT DIAMETER. PRESSURE SETTING 0.03; VACUUM SETTING -0.03. SUBMERGED FILL. 95,812,500 GALLON PER YEAR MAXIMUM ANNUAL THROUGHPUT FOR EACH.	SUBMERGED FILL	0.8	T/YR	PER ROLLING 12-MONTH PERIOD, FOR EACH	0			0		
OH-0317	OHIO RIVER CLEAN FUELS, LLC	11/20/2008	INTERNAL FLOATING ROOF TANKS (4)	NAPHTHA	262500	GAL/D	FOUR FUEL TANKS, 3 MM GALLONS EACH TANK. OUTSIDE TANKS. WHITE SHELL. 40 FEET HIGH, 115 FOOT DIAMETER. PRESSURE AND VACUUM SETTING TO BE DETERMINED. SUBMERGED FILL. 95,812,500 GALLON PER YEAR MAXIMUM ANNUAL THROUGHPUT FOR EACH.	FLOATING ROOF AND SUBMERGED FILL	0.88	T/YR	PER ROLLING 12-MONTH PERIOD, FOR EACH	0			0		
OK-0139	CUSHING TERMINAL CRUDE OIL STORAGE FACILITY	10/25/2010	Crude Oil Storage in External Floating Roof Tanks	NA	570000	Barrels		No controls feasible ; external floating roof tanks.	437.35	T/YR	YEAR / FACILITY-WIDE CAP	0			0		
*OR-0050	TROUTDALE ENERGY CENTER, LLC	3/5/2014	Storage tank	ULSD	0		2.2 million gallons, fixed roof, ULSD (vapor pressure 0.0055 psia)	Submerged fill line; Vapor balancing during tank filling.	0			0			0		
TX-0464	CONTINENTAL CARBON SUNRAY PLANT	3/18/2005	SMALL STORAGE TANK				THE FIXED ROOF TANKS ARE CONSIDERED BACT DUE TO THE LOW VAPOR PRESSURE OF THE FEEDSTOCK OIL.	THE FIXED ROOF TANKS ARE CONSIDERED BACT DUE TO THE LOW VAPOR PRESSURE OF THE FEEDSTOCK OIL.	0.01	LB/H		0.01	T/YR		0		
TX-0464	CONTINENTAL CARBON SUNRAY PLANT	3/18/2005	LARGE STORAGE TANK				THE FIXED ROOF TANKS ARE CONSIDERED BACT DUE TO THE LOW VAPOR PRESSURE OF THE FEEDSTOCK OIL.	THE FIXED ROOF TANKS ARE CONSIDERED BACT DUE TO THE LOW VAPOR PRESSURE OF THE FEEDSTOCK OIL.	0.01	LB/H		0.01	T/YR		0		
TX-0478	CITGO CORPUS CHRISTI REFINERY - WEST PLANT	4/20/2005	STORAGE TANK 13A&B						1.6	LB/H		3.9	T/YR		0		
TX-0478	CITGO CORPUS CHRISTI REFINERY - WEST PLANT	4/20/2005	STORAGE TANKS 6020-6023						4.4	LB/H		3.3	T/YR		0		
TX-0478	CITGO CORPUS CHRISTI REFINERY - WEST PLANT	4/20/2005	STORAGE TANKS 6011-6012						0.8	LB/H		1.4	T/YR		0		
TX-0478	CITGO CORPUS CHRISTI REFINERY - WEST PLANT	4/20/2005	SOUR WATER TANK						17.9	LB/H		2	T/YR		0		
TX-0487	ROHM AND HAAS CHEMICALS LLC LONE STAR PLANT	3/24/2005	ALCOHOL TANK (3)				THESE STORAGE TANKS ARE CURRENTLY OPERATING UNDER VERP PERMIT NO. 48922 WHICH IS BEING ROLLED INTO PERMIT NO. 723/P828M1. THEY ALL ARE FIXED ROOF TANKS LESS THAN 25,000 GALLON CAPACITY EXCEPT N-19. ACETONE TANK, N-19 IS AN INTERNAL FLOATING ROOF TANK. ALL TANKS ARE FILLED VIA SUBMERGED FILL PIPES. THESE TANKS MEET THE CURRENT BACT. EMISSIONS ARE PER TANK.		0.01	LB/H		0.01	T/YR		0		
TX-0496	INEOS CHOCOLATE BAYOU FACILITY	8/29/2006	TANK CAP						11.06	LB/H		45.18	T/YR		0		
TX-0537	LBC HOUSTON BAYPORT TERMINAL	10/26/2009	TWO NEW STORAGE TANKS				AUTHORIZE EMISSIONS FROM 2 NEW INTERNAL FLOATING ROOF TANKS, INCLUDE ROUTINE & PLANNED MSS (E.G., TANK ROOF LANDINGS - STANDING IDLE, REFILL, DEGAS)	IFR CONFIGURATION FOR ROUTINE EMISSIONS @ EACH OF 2 NEW TKS (LIMIT 1) FLARES/ICE FOR REFILL&DEGAS (LIMIT 2); OVERALL PERMIT LIMIT IS 19.74TPY FOR AFFECTED FLARES; LIMIT 2 ATTRIBUTABLE TO 2 NEW TANKS	1.83	T/YR		6.62	T/YR		0		
TX-0538	LBC HOUSTON BAYPORT TERMINAL	10/26/2009	TWO NEW STORAGE TANKS				AUTHORIZE EMISSIONS FROM 2 NEW INTERNAL FLOATING ROOF TANKS, INCLUDE ROUTINE & PLANNED MSS (E.G., TANK ROOF LANDINGS - STANDING IDLE, REFILL, DEGAS)	IFR CONFIGURATION FOR ROUTINE EMISSIONS @ EACH OF 2 NEW TKS (LIMIT 1) FLARES/ICE FOR REFILL&DEGAS (LIMIT 2); OVERALL PERMIT LIMIT IS 19.74TPY FOR AFFECTED FLARES; LIMIT 2 ATTRIBUTABLE TO 2 NEW TANKS	1.83	T/YR		6.62	T/YR		0		
TX-0592	CORPUS CHRISTI WEST REFINERY	3/29/2010	Tanks		0		Land tank roofs and degas for preparation for maintenance.	Land roof <24 hr without control, drain and degas to control until no standing liquid in the tank is left and VOC concentration less than 10,000 ppmv, vent to control when refilling landed tank until tank roof floating again to minimize impacts	1027	LB/H		13.3	T/YR		0		
TX-0592	CORPUS CHRISTI WEST REFINERY	3/29/2010	Temporary Tanks		0		Frac Tanks used to support MSS	Submerged filled, white tanks <25,000 gallon capacity	64	LB/H		2.1	T/YR		0		
TX-0595	CORPUS CHRISTI EAST REFINERY	8/19/2010	Tanks		0		Land tank roofs and degas in preparation for maintenance.	Land roof and keep it landed no more than 24 hrs without control, drain and degas to control until no standing liquid remains in the tank and the VOC<10,0000 ppmv in the vent stream. During refilling, vent to control until tank roof is floating to minimize impacts.	1482	LB/H		12.7	T/YR		0		
TX-0595	CORPUS CHRISTI EAST REFINERY	8/19/2010	Temporary Tanks		0		Frac Tanks used to support MSS activities	Submerge filled white tanks with<25,000 gallon capacity	64	LB/H		1.7	T/YR		0		
TX-0613	EAST HOUSTON TERMINAL	4/23/2012	Storage Tanks		0		Tanks store various liquids and range in size from 1.68 to 14.7 million gal	Internal floating roof with welded seams, mechanical shoe primary seal and rim mounted secondary seal	9	LB/H		8	T/YR		0		
TX-0613	EAST HOUSTON TERMINAL	4/23/2012	Storage Tanks-MSS		0		MSS requirements apply when floating roof is landed	Vapor space must be routed to control at all times if liquid vapor pressure>0.1 psia. Roof cannot stay landed for more than 3 days. Control may be relaxed if all liquid is removed (drain dry tanks) and VOC concentration 5000 ppmv or less.	30	LB/H		2.8	T/YR		0		

Table D-H-1
Volatile Organic Compounds (VOC) RBLC Search - Storage Tanks
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
TX-0613	EAST HOUSTON TERMINAL	4/23/2012	Storage Tank Terminal Piping/Components Fugitives		0			28LAER Leak Detection and Repair (LDAR) program. All components monitored quarterly with 500 ppmv leak definition. Weekly visual check on components in heavy liquid service	0.16	LB/H		0.68	T/YR		0		
TX-0613	EAST HOUSTON TERMINAL	4/23/2012	Storage Tank Terminal Piping/Components		0			Vent vapors to control if vapor pressure>0.5 psia and maintain control until VOC concentration less than 5000 ppmv is reached	118	LB/H		2.59	T/YR		0		
*TX-0637	GALENA PARK TERMINAL	10/15/2013	Petroleum Liquid Storage in loating Roof Tanks	not applicable	1300000	bbl	Facility will install four 100,000 bbl internal floating roof tanks and six 150,000 bbl domed external floating roof tanks to store petroleum liquids	Welded decks, mechanical shoe primary and rim-mounted secondary seal for stock with VP>0.10 psia. Control is required during loading of marine vessels and during roof landings for VP>0.10 psia.	14.37	T/YR	ROLLING 12 MONTHS AVERAGE	0			0		
*TX-0653	TEXAS DOCK AND RAIL	2/18/2014	Petroleum Liquid Marketing; Petroleum Liquid Storage in Floating Roof Tanks	natural gas as pilot fuel for VCU	250	Mbbl	Six Condensate tanks are 250,000 bbl capacity. Total throughput for the facility is 125 MMbbl/yr	For storage of VOC in floating roof tanks, the tanks will have welded decks, mechanical shoe primary and rim-mounted secondary seal for VOC with a vapor pressure >0.5 psia. Floating roof tank landings are limited in frequency and duration.	11.23	T/YR	ROLLING 12 MONTHS	92.87	TPY	ROLLING 12 MONTHS	43.92	TPY	ROLLING 12 MONTHS
*TX-0661	OILTANKING APPELT TERMINAL	6/30/2014	390 Mbbl Storage Tanks-Routine Operations		23.4	MMbbl/year	Seven new DEFR storage tanks that each has a 390,000 bbl capacity will be assigned to ‘‘Tank Group 3. The authorized storage products are crude (up to and including RVP 7), condensate (up to and including RVP 11), and gasoline (up to and including RVP 11).	Domed External Floating Roof	7.56	LB/H	HOUR	2.19	TON	YEAR	0		
*TX-0661	OILTANKING APPELT TERMINAL	6/30/2014	210 Mbbl Storage Tank-Routine Operations		7.62	MMgal/yr		Domed External Floating Roof	10.29	LB/H	HOUR	1.71	TON	YEAR	0		
*TX-0661	OILTANKING APPELT TERMINAL	6/30/2014	127 Mbbl Storage Tank-Routine Operations		7.62	MMgal/year	One new DEFR storage tank with a 127,000 bbl capacity will be assigned to Tank Group 3. The authorized storage products are crude (up to and including RVP 7), condensate (up to and including RVP 11), and gasoline (up to and including RVP 11).	Domed External Floating Roof	13.17	LB/H	HOUR	1.43	TON	YEAR	0		
*TX-0661	OILTANKING APPELT TERMINAL	6/30/2014	Storage tanks â€“ MSS operations		0		Controlled MSS emissions include controlled standing idle, filling, and degassing losses. These controlled MSS emissions are routed to a portable vapor combustor (EPN PORTVC), which releases VOC, nitrogen oxides (NOx) and carbon monoxide (CO) to the atmosphere. Uncontrolled MSS emissions are the result of uncontrolled venting (FIN 390-132, EPN 390-132 MSS; FIN 390-133, EPN 390-133 MSS; FIN 390-134, EPN 390-134 MSS; FIN 390-136, EPN 390-136 MSS; FIN 390-137, EPN 390-137 MSS; FIN 390-138, EPN 390-138 MSS; FIN 390-139, EPN 390-139 MSS; FIN 210-135, EPN 210-135 MSS; and FIN 127-131, EPN 127-131 MSS) of residual waste vapors in the tanks.	Vapor Combustor	0			0			0		
*TX-0663	JACKSON COUNTY GAS PLANT	5/25/2012	Produced Water Tanks		0		13,000 gallons Store produced water with VOC vapor pressure less than 0.5 psia at 95 F	White, submerged fill	0			0.01	TON	YEAR	0		
*TX-0663	JACKSON COUNTY GAS PLANT	5/25/2012	Fixed Roof Tanks		0		9000 gallons Store amine, glycol, slop oil, lube oil or waste oil with pressures less than 0.5 psia at 95 Â°F	White, submerged fill	0			0.01	TON	YEAR	0		
*TX-0682	GALENA PARK TERMINAL	6/12/2013	Storage Tanks		0		A combination of IFR tanks, fixed roof tanks and frac tanks wil be used at the facility	Vapor space degassing will be directed to control until VOC level in the tank is less than 5,000 ppmv (2,000 if vented to atmosphere).	5000	PPMVD		0			0		
*TX-0684	ENTERPRISE MONT BELVIEU COMPLEX	11/14/2012	Tanks		0		The new tanks that will be put in service will only store very low vapor pressure(<0.00001psia) VOC liquids and wastewater containing trace amounts of VOC. Fixed roof tanks and low annual throughput are the only means of control due to the negligible quantity of emissions from these tanks	Proper design and operation of tanks	0.76	LB/H		0.1	T/YR		0		
*TX-0728	PEONY CHEMICAL MANUFACTURING FACILITY	4/1/2015	Diesel and lube oil tanks		10708	gallons/yr	The tanks are painted white. Loading is done via submerged piping. The volatile organic compound (VOC) vapor pressure of the diesel and lube oil stored is below 0.0002 pounds per square inch actual (psia), so a fixed roof is reasonable.	low vapor pressure fuel, submerged fill, white tank	0.02	LB/H		0.01	T/YR		0		
*TX-0731	CORPUS CHRISTI TERMINAL CONDENSATE SPLITTER	4/10/2015	Petroleum Liquids Storage in Fixed Roof Tanks		3.4	MMBbl/yr/tank	(4) Heated atmospheric residuum (â€œresidâ€) tanks	Temperature reduced to maintain volatile organic compound (VOC) vapor pressure < 0.5 pounds per square inch actual (psia) at all times.	15.78	T/YR		0			0		
*TX-0731	CORPUS CHRISTI TERMINAL CONDENSATE SPLITTER	4/10/2015	Petroleum Liquids Storage in Floating Roof Tanks		8	MMBbl/yr/tank	(19) internal floating roof tanks for storage of crude oil/condensate, light naphtha, heavy naphtha, jet fuel and distillate.	Required floating roof with welded deck seams if the tank will store products with VOC vapor pressure of 0.5 psia or greater. Proper fitting and seal integrity for the floating roof is ensured through visual inspections and any seal gap measurements specified in 40 CFR Â§ 60.113b. The vapor space under the floating roof must be routed to a control device during standing idle periods until the vapor space VOC concentration is 10,000 ppmv or less. The tank roof must be landed on its lowest legs unless tank entry is planned. Refilling must also be controlled if the product stored has a VOC vapor pressure of 0.5 psia or greater.	5.09	T/YR		0			0		
*TX-0752	INGLESIDE TERMINAL	6/22/2015	Tank Roof Landings		110	M BBl/yr	Normal operations and MSS	vapor combustor	4.21	T/YR		0			0		
*TX-0752	INGLESIDE TERMINAL	6/22/2015	Storage Tanks		110	M BBl/yr	110,000,000 barrels per year internal floating roof storage tanks with primary liquid mounted mechanical shoe seal.		81.57	T/YR		0			0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Storage Tanks, TK-101, TK-102, TK-103, TK-104		383000000	gal/yr/tank	Maximum fill/withdrawal rate for each tank is limited to 1,260,000 gal/hr. All tanks each have a volume of 9,240,000 gals.	Internal floating roof with mechanical shoe primary seal and a rim mounted secondary seal. Deck is welded with gaskets on all deck appurtenances. The tank bottoms shall be drain dry design â€“ any remaining heel will drain to a sump, which in turn can be emptied. The floating roof shall be equipped with a connection to a vapor recovery system such that vapors from under a landed roof may be directed to a control device.	6.44	LB/H		2.62	TPY		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Storage Tanks, TK-105, TK-106		300000000	gal/yr/tank	Maximum fill/withdrawal rate for each tank is limited to 1,260,000 gal/hr. All tanks each have a volume of 9,240,000 gals.	Internal floating roof with mechanical shoe primary seal and a rim mounted secondary seal. Deck is welded with gaskets on all deck appurtenances. The tank bottoms shall be drain dry design â€“ any remaining heel will drain to a sump, which in turn can be emptied. The floating roof shall be equipped with a connection to a vapor recovery system such that vapors from under a landed roof may be directed to a control device.	2.35	LB/H		3.95	TPY		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Storage Tanks 116, TK-117, TK-118, and TK-119		744282000	gal/yr/tank	each 744,282,000 gal/yr. Maximum fill/withdrawal rate for each tank is limited to 1,260,000 gal/hr. All tanks each have a volume of 9,240,000 gals.	Internal floating roof with mechanical shoe primary seal and a rim mounted secondary seal. Deck is welded with gaskets on all deck appurtenances. The tank bottoms shall be drain dry design â€“ any remaining heel will drain to a sump, which in turn can be emptied. The floating roof shall be equipped with a connection to a vapor recovery system such that vapors from under a landed roof may be directed to a control device.	6.38	LB/H		3.48	TONS/YR/TANK		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Storage Tanks, TK-107, TK-108, TK-109, 42.005		60300	gal/hr	each- 176, 000, 000 gal/yr	Material w/vapor press < 0.5 psia. Tanks are required to be painted white and be equipped with submerged fill pipes	4.2	LB/H		3.26	TONS/YR/TANK		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Storage Tanks, TK-110, TK-111, TK-112		57960	gal/hr	each- 169,000,000 gal/yr	Tanks are required to be painted white and be equipped with submerged fill pipes	3.07	LB/H		2.63	TONS/YR/TANK		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Storage Tanks, TK-113, TK-114, and TK-115		47000000	gal/yr/tank	16,200 gal/hr maximum fill rate	Tanks are required to be painted white and be equipped with submerged fill pipes	0.85	LB/H		1.15	TONS/YR/TANK		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Wastewater Tank, TK-3		8000000	gallons/yr		Tank is required to be painted white and be equipped with submerged fill pipes	0.01	LB/H		0.01	TPY		0		

Table D-H-1
Volatile Organic Compounds (VOC) RBLC Search - Storage Tanks
Invenergy, LLC - Allegheny County Energy Center Project

RBLCID	FACILITY NAME	PERMIT ISSUANCE DATE	PROCESS NAME	PRIMARY FUEL	THROUGHPUT	THROUGHPUT UNIT	PROCESS NOTES	CONTROL METHOD DESCRIPTION	EMISSION LIMIT 1	UNIT	AVG TIME CONDITION	EMISSION LIMIT 2	UNIT	AVG TIME CONDITION	STANDARAD EMISSION LIMIT	UNIT	AVG TIME CONDITION
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Spent Caustic Tank, TK-4		35000	gallons/yr		Tank is required to be painted white and be equipped with submerged fill pipes	0.01	LB/H		0.01	TPY		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Storage Tanks, TK-120 and TK-121		1437817500	gal/yr/tank	Both tanks each have a volume of 17,850,000 gals each	External floating roof with mechanical shoe primary seal and a rim mounted secondary seal. Deck is welded with gaskets on all deck appurtenances. The tank bottoms shall be drain dry design â€" any remaining heel will drain to a sump, which in turn can be emptied. The floating roof shall be equipped with a connection to a vapor recovery system such that vapors from under a landed roof may be directed to a control device.	5.43	LB/H		7.33	TONS/YR/TANK		0		
*TX-0756	CCI CORPUS CHRISTI CONDENSATE SPLITTER FACILITY	6/19/2015	Floating Roof Storage Tanks - Controlled Maintenance, Startup and Shutdown (MSS)		5000	scf/hr		Vapor space under the landed floating roof is degassed to a flare meeting the requirements 40CFR60.18 until VOC concentration is 10,000 ppmv or less.	10000	PPMVD		7.82	TPY		0		
VA-0313	TRANSMONTAIGNE NORFOLK TERMINAL	4/22/2010	Storage Tank Breathing, Working, and Floating Roof Landing Losses (including emergency roof landings)		0		Storage Throughputs: Gasoline/ Denatured Ethanol: 740,000,000 gal/yr Distillate Oil/Residual Oil/Lubricating Oil: 1,180,000,000 gal/yr Additives: 4,000,000 gal/yr TransMix: 132,272 gal/yr Off Spec Product (PCW): 1,985,000 gal/yr	Floating Roof and Seal Systems meeting NSPS Kb, MACT BBBBBB requirements for Tanks in Gasoline Service	114.1	T/YR		0			0		
WI-0248	ENBRIDGE ENERGY	9/22/2008	TANKS T05, T09				EXISTING CRUDE OIL STORAGE TANKS. ORIGINAL CAPACITY OF 150,000 BARREL (BBL) (6,300,000 GALLON) INCREASED TO 172,000 BBL (7,224,595 GALLONS). INVOLVED REPLACEMENT OF A PORTION OF THE TANK WALL WITH A TALLER TANK WALL, AND CONVERTING THE BOTTOM OF THE TANK TO A 'CONE DOWN' / DRAIN DRY CONFIGURATION. PROJECT IMPROVED UTILIZATION OF THE TANK (LARGER TANK ENABLES IT TO BE USED FOR TWO BATCHES OF CRUDE OIL). PROJECT ALSO CONSIDERED A PORTION OF A MAJOR FACILITY EXPANSION (INCLUDING NEW PIPELINES)	EXTERNAL FLOATING ROOF TANK	0.49	T/MO	12 MO. AVG.	1	ROOF LANDING	12 MO. AVG.	0		
WI-0249	ENBRIDGE ENERGY	8/22/2008	TANK T35				NEW EXTERNAL FLOATING ROOF TANK. PROCESS T35 - EXTERNAL FLOATING ROOF TANK (8,673,426 GAL; 2008) PROJECT ALSO CONSIDERED A PORTION OF A MAJOR FACILITY EXPANSION (INCLUDING NEW PIPELINES)	EXTERNAL FLOATING ROOF TANK	0.53	T/MO	12 MO. AVG.	1	LANDING EVENT	12 MO. AVG.	0		
WI-0251	ENBRIDGE ENERGY	7/21/2009	T36-T40 CRUDE OIL STORAGE TANKS				8,673,426 GAL CAPACITY EACH. EXTERNAL FLOATING ROOF TANKS. UP TO 200 TURNOVERS / YEAR.	EXTERNAL FLOATING ROOF TANK	0.53	T/MO	12 MO. AVG., EXCLUDING LANDING EVENTS	1	LANDING EVENT /YR.	(AVERAGE OVER ALL NEW / MODIFIED TANKS)	0		
WI-0251	ENBRIDGE ENERGY	7/21/2009	F01 - NEW AND MODIFIED TANKS, NEW PIPELINES, AND ASSOCIATED FUGITIVE VOC				VOC LEAKS FROM NEW AND MODIFIED TANK PIPING, NEW PIPING MANIFOLDS, AND OTHER NEW PIPING, PUMPS, VALVES , ETC. ASSOCIATED WITH THE NEW PIPELINES.	USE OF AN INSTRUMENT BASED LEAK DETECTION AND REPAIR (LDAR) PROGRAM, COMBINED WITH NON-INSTRUMENTAL METHODS (SIGHT, SOUND AND SMELL), AND GOOD OPERATING PRACTICES.	0			0			0		
*WY-0071	SINCLAIR REFINERY	10/15/2012	Storage Tank		100	MMbbls	intermediate/gasoline storage tank	External Floating Roof Tank	0			0			0		